



Public Health
England

Protecting and improving the nation's health

Chronic pain in adults 2017

Health Survey for England

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Executive summary

This report explores the responses to questions on chronic pain in the 2017 Health Survey for England. It sets out the overall prevalence of chronic pain amongst the general population as well as identifying differences between sub-groups. It examines the site and severity of the chronic pain for those who are experiencing pain, as well as the impact on their mental health. It finishes with an analysis of the use of specialist pain services.

Main findings

In 2017, 34% of respondents reported some level of chronic pain which was unchanged from 2011.

The prevalence of chronic pain increased with age ranging from 18% among those aged 16-34 years to 53% among those 75 years and over.

Women (38%) reported a higher prevalence of chronic pain than men (30%).

All ethnic groups showed similar reporting of chronic pain to the figure for all persons of 34%, except for people in the Black ethnic group who reported a significantly higher prevalence at 44%.

Those living in more deprived areas were more likely to report having chronic pain (41%) than those in the least deprived areas (30%).

Those that were permanently unable to work because of long-term sickness or disability, and those intending to look for work but prevented by temporary sickness or injury were more likely to report having chronic pain (77% and 66% respectively) compared with those in paid employment (27%).

People with a healthy weight reported a lower prevalence of chronic pain (29%) compared with those in the obese (39%) and very obese (54%) categories.

Those who reported below 30 minutes of moderate or vigorous physical activity (MVPA) per week reported a higher prevalence of chronic pain (45%) than those who completed 30 minutes or more of MVPA per week (31%).

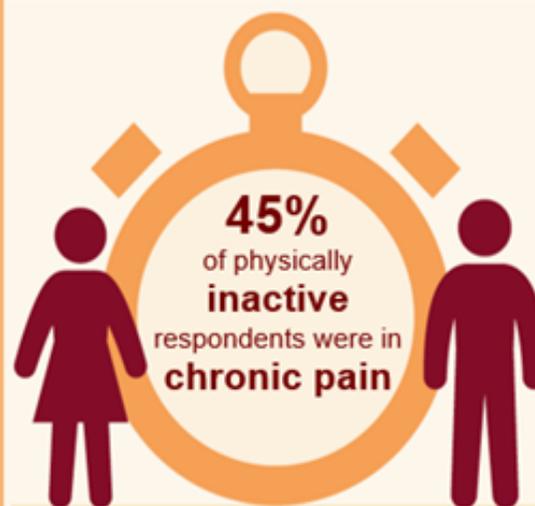
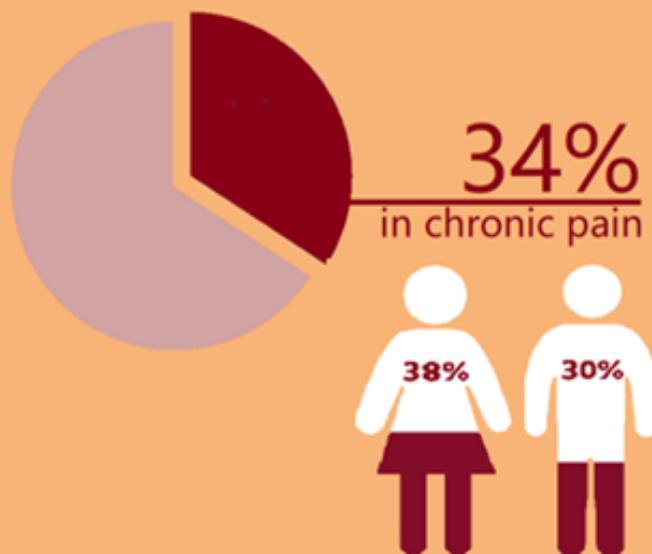
Among those who reported chronic pain, 36% also reported a long-lasting musculoskeletal condition, 35% reported no long-lasting illness, 15% reported a mental health disorder and 14% reported a heart or circulatory condition.

Most respondents who experienced chronic pain reported low interference with their usual daily activities (66%) as opposed to high interference (34%).

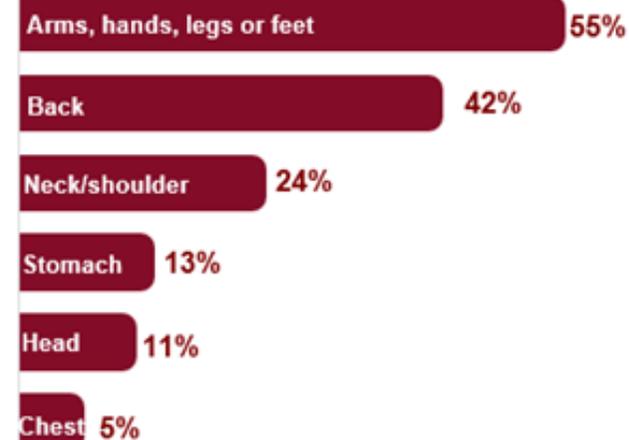
Those that experienced chronic pain with a high interference with their usual daily activities were more likely to have used specialist pain services (52%) than those with low interference pain (35%).

Chronic pain in adults 2017 - Summary

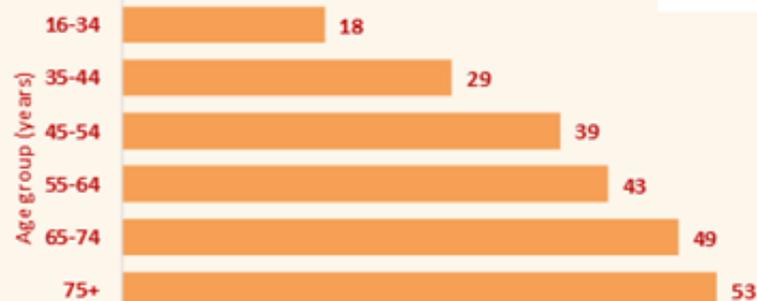
Source: Health Survey for England 2017



Location of chronic pain



Chronic pain increases with age



Chronic pain increases with BMI

Introduction

Chronic pain, defined as pain for a period of 12 weeks or more, is a common, complex, and distressing condition, which has an impact on individuals and society (i). The Global Burden of Disease Study 2016 has highlighted pain as one of the most prominent causes of disability worldwide (ii). Low back and neck pain have consistently been the leading causes of disability internationally, with other chronic pain conditions featuring prominently in the top 10 causes of disability (ii). Chronic pain has a significant impact on peoples' lives, it is associated with several negative outcomes including depression, job loss, reduced quality of life, impairment of function and limiting daily activities.

This report explores data from the Von Korff chronic pain questionnaire (iii) which was included in Health Survey for England 2017 and, where possible, compares results from 2011 when the questionnaire was last included. The Von Korff chronic pain questionnaire (iii) is designed to evaluate overall severity of chronic pain based on 2 dimensions, pain intensity and pain related disability.

The report also explores inequalities in experience of chronic pain, including by type of long-lasting illness, such as musculoskeletal conditions. Accompanying data tables along with confidence intervals are available at [Chronic pain in adults 2017](#).

This report will be useful for those commissioning and delivering services for those experiencing chronic pain, policy makers in central and local government as well as the general public.

Methods

The Health Survey for England

The Health Survey for England monitors trends in the nation's health and care. It provides information about adults aged 16 and over and children aged 0 to 15. The survey consists of an interview, followed by a visit from a nurse who takes some measurements and blood and saliva samples. In 2017, 7,997 adults and 1,985 children were interviewed, and 5,196 adults and 1,195 children had a nurse visit. For more information on the Health Survey for England 2017 please visit the website www.digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england/2017

Questions about chronic pain were asked of all adult respondents in the main computer-assisted interview. Adult respondents, defined as those aged 16 and over, were asked if they were currently troubled by pain and discomfort either all the time or on and off. If respondents reported that they were, they were asked whether they had had the pain or discomfort for more than 3 months.

Respondents who reported that they had had pain or discomfort for more than 3 months were then asked more detailed questions about their pain or discomfort. These questions included:

- which areas of the body the pain was in
- the intensity of the pain
- how much the pain interfered with aspects of their life
- support or help they had received

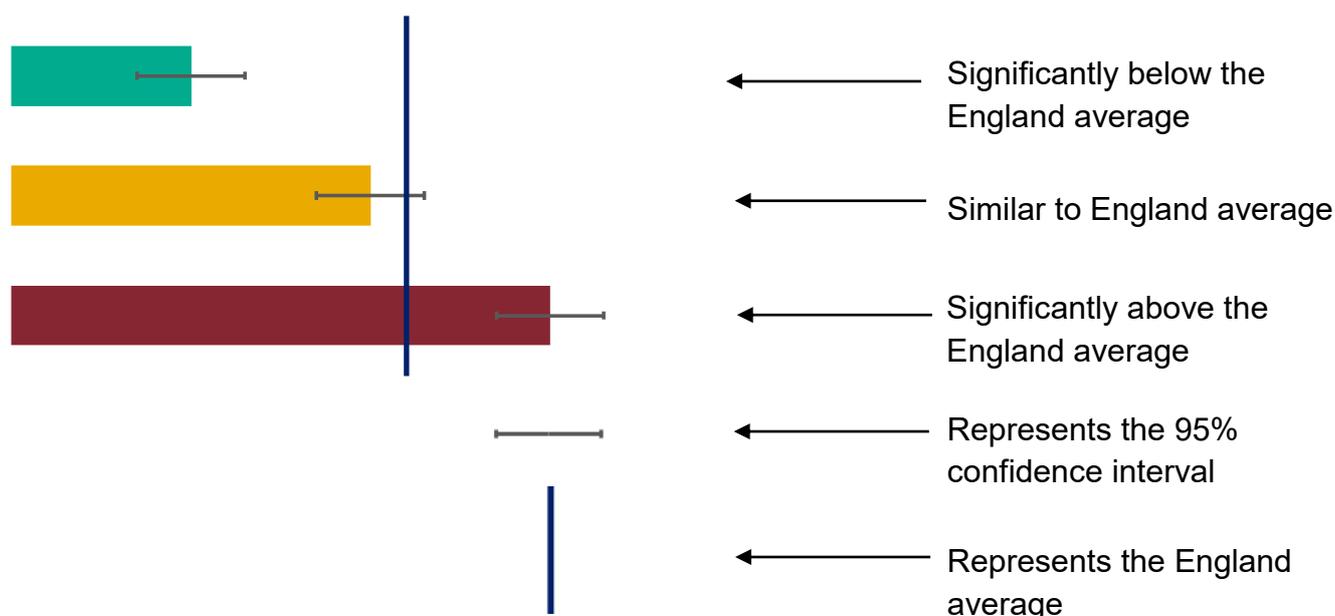
Full details of the chronic pain questions that were asked as part of Health Survey for England 2017 are available from page 33 of the survey documentation <https://files.digital.nhs.uk/02/41519D/HSE17-Survey-documentation.pdf>

Statistical significance

Any differences in prevalence mentioned in this report are statistically significant. Significance was calculated via the overlapping confidence method where if confidence intervals did not overlap the England average, then the value was deemed to be significantly different. Values that overlapped the England average were deemed to be statistically similar. Some of the charts use red, amber and green colour coding to indicate whether a figure is significantly above the England average (red), significantly below the England average (green) or not significantly different from the England average (amber) (Figure 1).

Some of the results for smaller sub-groups of survey respondents will have wider confidence intervals and therefore there is less certainty about the results for those groups. The number of respondents each analysis is based on is available in the accompanying tables.

Figure 1: Example of statistical significance



Age standardisation

When different sub-groups are compared in respect of a variable on which age has an important influence, any differences in age distributions between these sub-groups are likely to affect the observed differences in the proportions of interest.

Therefore, apart from the tables and charts which show age breakdowns, other tables and charts have been age-standardised (unless otherwise stated) to allow comparisons between groups after adjusting for the effects of any differences in their age distributions.

Age standardisation was carried out using the direct standardisation method. The standard population to which the age distribution of sub-groups was adjusted was the mid-year 2017 population estimates for England.

Age standardisation was carried out using the age groups 16 to 24, 25 to 34, 35 to 44, 45 to 54, 55 to 64, 65 to 74 and 75 and over.

Definitions

Chronic pain

Chronic pain was defined as pain or discomfort that had troubled the respondent all the time or on and off for more than the last 3 months.

Long-lasting illnesses

Long-lasting illnesses mentioned in the report are defined as physical or mental health conditions or illnesses lasting or expected to last 12 months or more. The questions about long-lasting illnesses were not directly linked to questions about chronic pain, so chronic pain may not be associated with the long-lasting illness that is reported.

Musculoskeletal conditions

Musculoskeletal conditions mentioned in the report are a sub-category of long-lasting illnesses. Respondents self-reported up to 6 longstanding health conditions which were defined one of the reported long-lasting illnesses according to the ICD-10 (International Classification of Diseases, 10th Revision). The main health conditions that were classed as musculoskeletal were arthritis, rheumatism, fibrositis and conditions relating to the back, slipped disc, spine and neck.

Chronic pain grade

A number of the questions asked were based on the Von Korff graded chronic pain scale version 2.0 (iii). Respondents were asked to rate their current level of pain, the level of their usual pain at times when they had been in pain in the last 3 months, and the level of their worst pain in the last 3 months. All levels were measured on a scale from zero to 10, where zero was no pain and 10 was pain as bad as it could be. Current pain, usual pain and worst pain scores were added together to give a pain intensity score ranging from zero to 30.

Further questions established a disability score based on the number of days they had been kept from their usual activities, how much the pain interfered with their ability to carry out their daily activities, recreational activities and work activities in the last 3 months. For each of these 4 categories a score from zero to 10 was given and a disability score was calculated by adding the 4 category scores to give a range from zero to 40. The combination of intensity of pain score and disability score were used to calculate a chronic pain grade.

The 5 grades in the chronic pain grade system are based on the disability score and the intensity score. Grade 0 is assigned to those who are pain free, meaning no pain problem in the last 3 months. Grades I and II are characterised by some level of pain in the last 3 months but have a disability score below 17 indicating low levels of interference with people's lives. Grade I has an intensity score of less than 15 out of maximum of 30, while grade II has an intensity score of 15 or more. Grades III and IV are given to those whose pain causes high levels of interference with their lives, with grade III for a disability score of 17 to 24 and grade IV for a disability score of 25 to 40 (Table 1).

Table 1: Von Korff Chronic Pain Grade

Chronic pain grade	Disability score	Intensity score	Description
Pain Free			
Grade 0	0	0	No pain in last 3 months
Low interference pain			
Grade I	0 to 16	0 to 14	low disability - low intensity pain
Grade II	0 to 16	15 to 30	low disability - high intensity pain
High interference pain			
Grade III	17 to 24	0 to 30	high disability - moderately limiting pain
Grade IV	25 to 40	0 to 30	high disability - severely limiting pain

For the purposes of this report, analysis of chronic pain grade has been presented using the low interference pain and high interference pain groups (Table 1). These groups are based on the level of interference (disability) on usual, day to day activities rather than intensity of pain. Analyses by the 5 chronic pain grades are available in the accompanying tables.

EQ-5D

EQ-5D has been used in this report to provide a measure of self-assessed health status. The EQ-5D questionnaire is a standardised instrument developed by the EuroQol Group in order to provide a simple, generic measure of health for clinical and economic appraisal. Applicable to a wide range of health conditions and treatments, it provides a simple descriptive profile and a single index value for health status that can be used in the clinical and economic evaluation of health care as well as in population health surveys.

There are 2 components to the EQ-5D; the first is a descriptive system comprising 5 different dimensions; Mobility; Self care; (ability to perform) Usual Activities; Pain/Discomfort and Anxiety/Depression. Respondents are asked to indicate whether

they have no problems, some problems or severe problems (the wording for each dimension differs slightly).

The second component is the EQ visual analogue scale (EQ VAS), which records the respondent's self-rated health that day on a vertical 'thermometer' scale where the endpoints are labelled 'best imaginable health state' (100) and 'worst imaginable health state' (0). This information can be used as a quantitative measure of health as judged by the individual respondents.

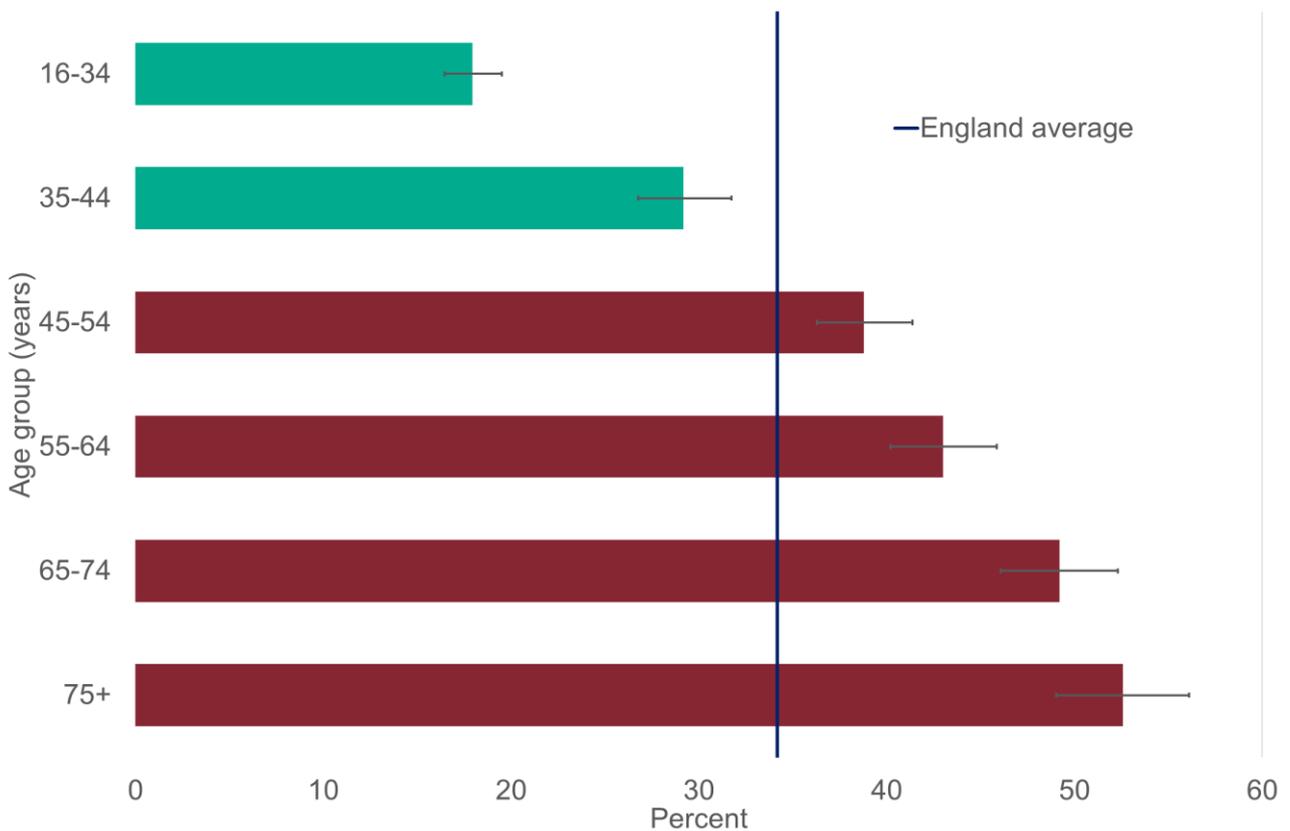
More information on the EQ-5D questionnaire is available from the EuroQol EQ-5D website <https://euroqol.org/>

Prevalence of chronic pain

Chronic pain and age

In 2017, 34% of respondents reported some level of chronic pain which was unchanged from 2011. The prevalence of chronic pain increased with age ranging from 18% among those aged 16 to 34 years to 53% among those 75 years and over. Age 45 to 54 years (39%) was the point when chronic pain became significantly higher than the average for all adults (Figure 2, Table I).

Figure 2: Prevalence of chronic pain, by age, 2017

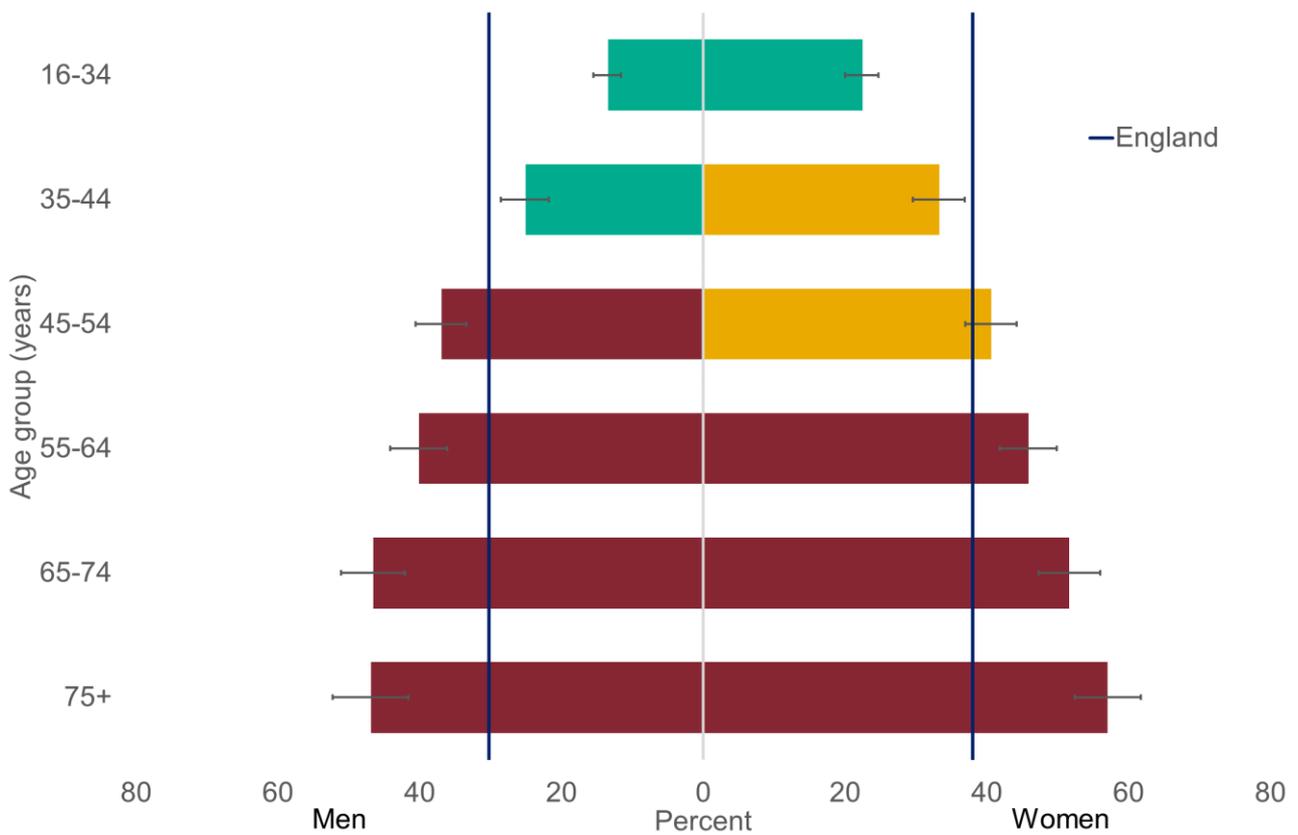


Source: Health Survey for England, 2017

Chronic pain and age and sex

Women (38%) reported a higher prevalence of chronic pain than men (30%). Rates were similar to those reported in 2011 which were 37% of women and 31% of men. Women reported higher chronic pain prevalence at every age group than men. Prevalence of chronic pain increased with age for both men and women. At age 16-34 years men reported a rate of 13% increasing to 47% at age 75+ years. Prevalence in women increased from 22% at 16-34 years to 57% at 75+ years (Figure 3, Table I).

Figure 3: Prevalence of chronic pain, by age and sex, 2017

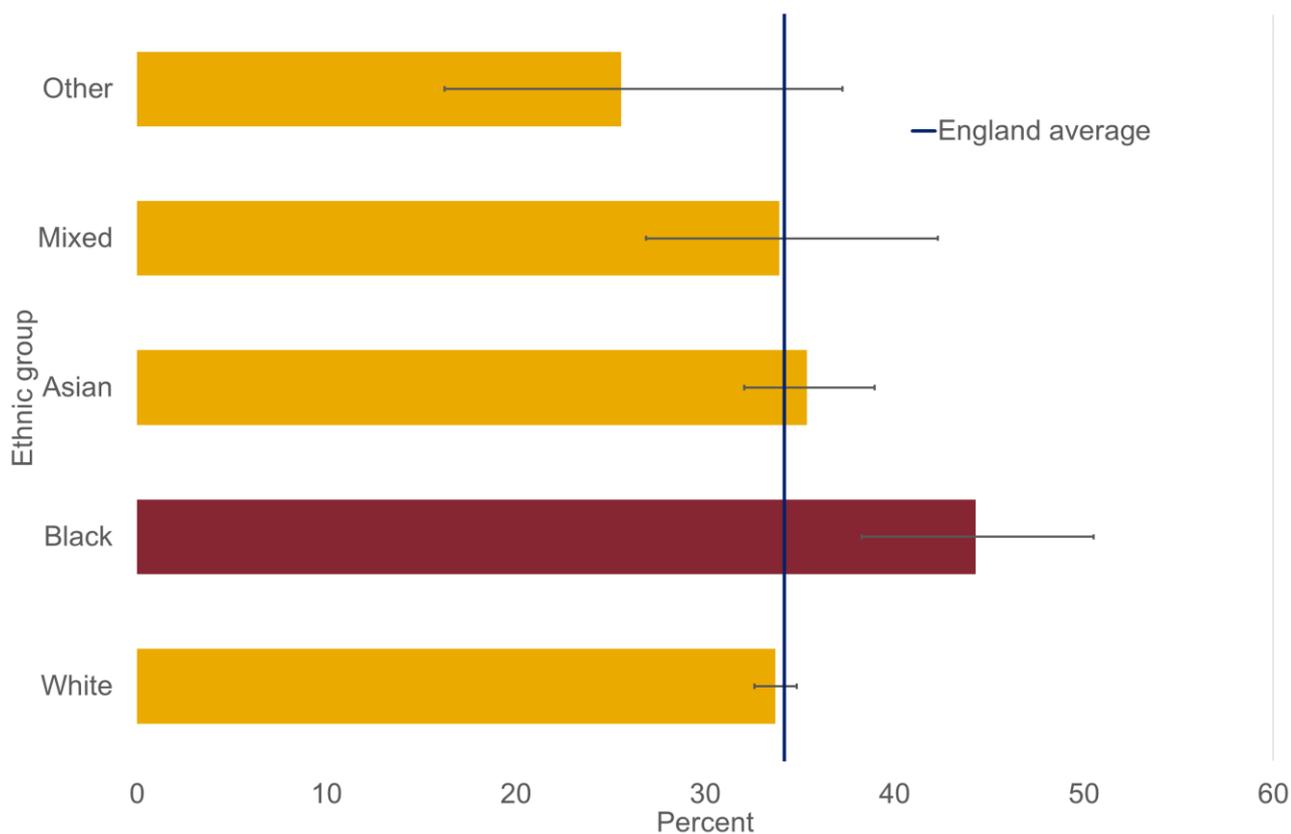


Source: Health Survey for England, 2017

Chronic pain and ethnicity

All ethnic groups showed similar reporting of chronic pain to the figure for all persons of 34%, except for people in the Black ethnic group who reported a significantly higher prevalence at 44% (Figure 4, Table II).

Figure 4: Prevalence of chronic pain, by ethnicity, 2017, age standardised

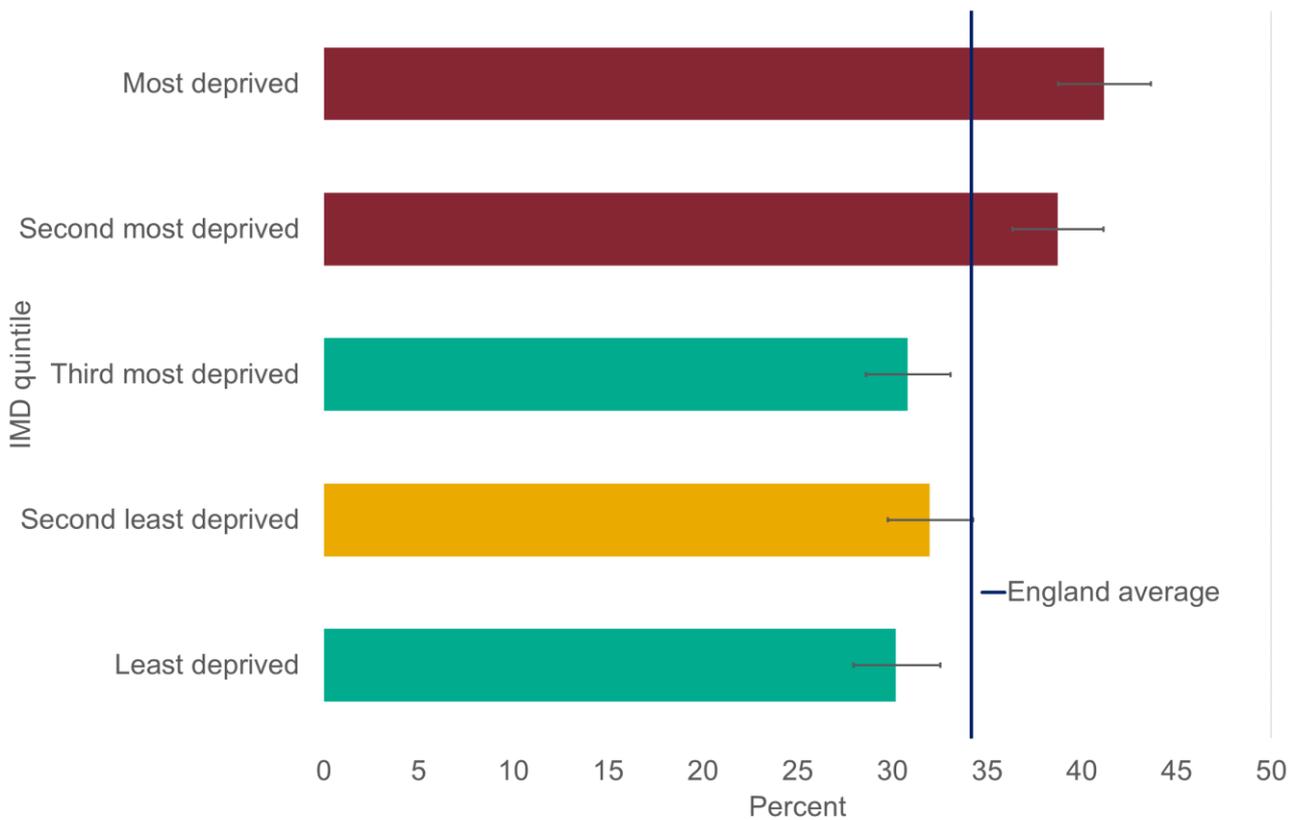


Source: Health Survey for England, 2017

Chronic pain and index of multiple deprivation (IMD)

Those living in more deprived areas were more likely to report having chronic pain than those in the least deprived areas. Forty-one percent of those in the most deprived quintile reported chronic pain and 39% of those in the second most deprived quintile compared with 30% in the least deprived quintile (Figure 5, Table III).

Figure 5: Prevalence of chronic pain, by index of multiple deprivation (IMD), 2017, age standardised



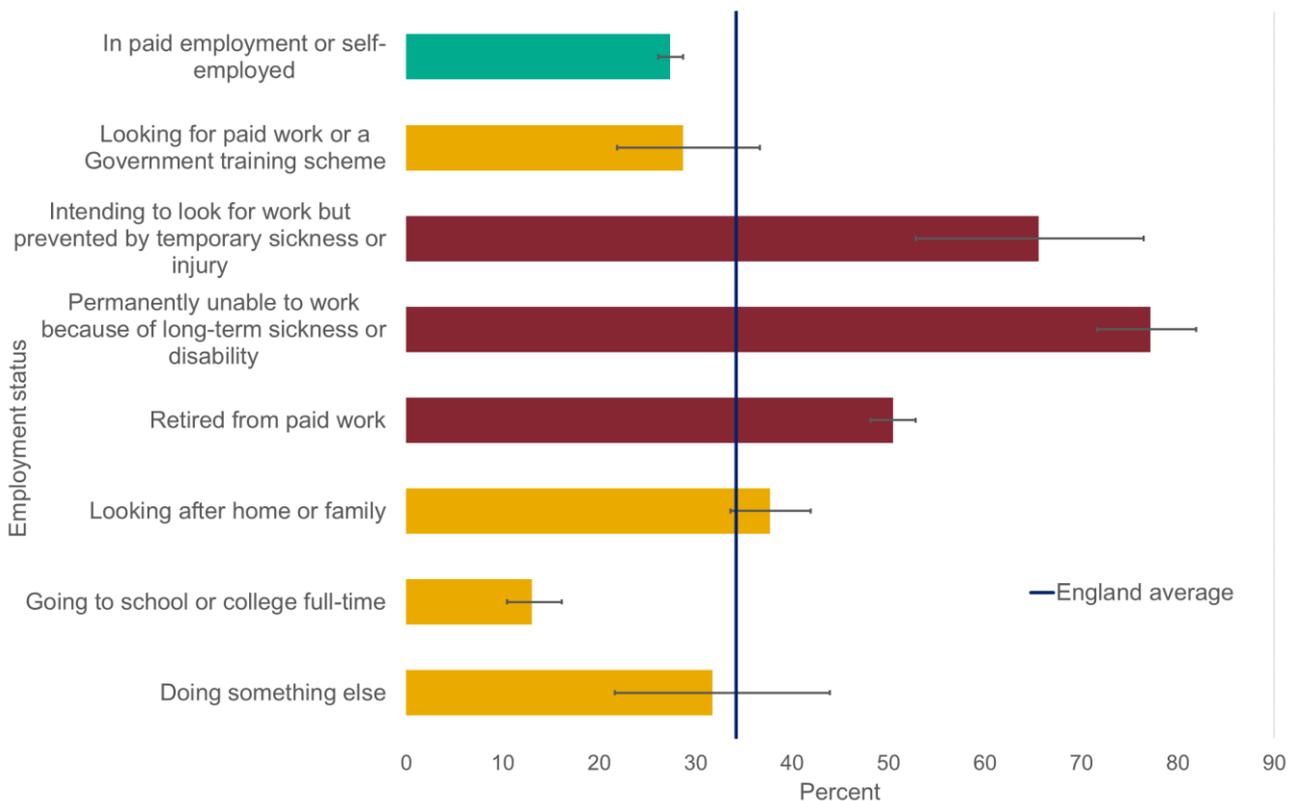
Source: Health Survey for England, 2017

Chronic pain and employment status

Those that were permanently unable to work because of long-term sickness or disability were more likely to report having chronic pain (77%), followed by those intending to look for work but prevented by temporary sickness or injury (66%). Apart from those in full time education (13%), who will predominantly be younger people; those in paid employment (27%) were least likely to report having chronic pain (Figure 6, Table IV).

These values cannot be age-standardised reliably as the age distributions of the employment groups are very different to the age distribution of the standard population (for example there are only a few young adults who are retired and similarly there are only a few older people who are still working).

Figure 6: Prevalence of chronic pain by employment status, 2017, non-age-standardised

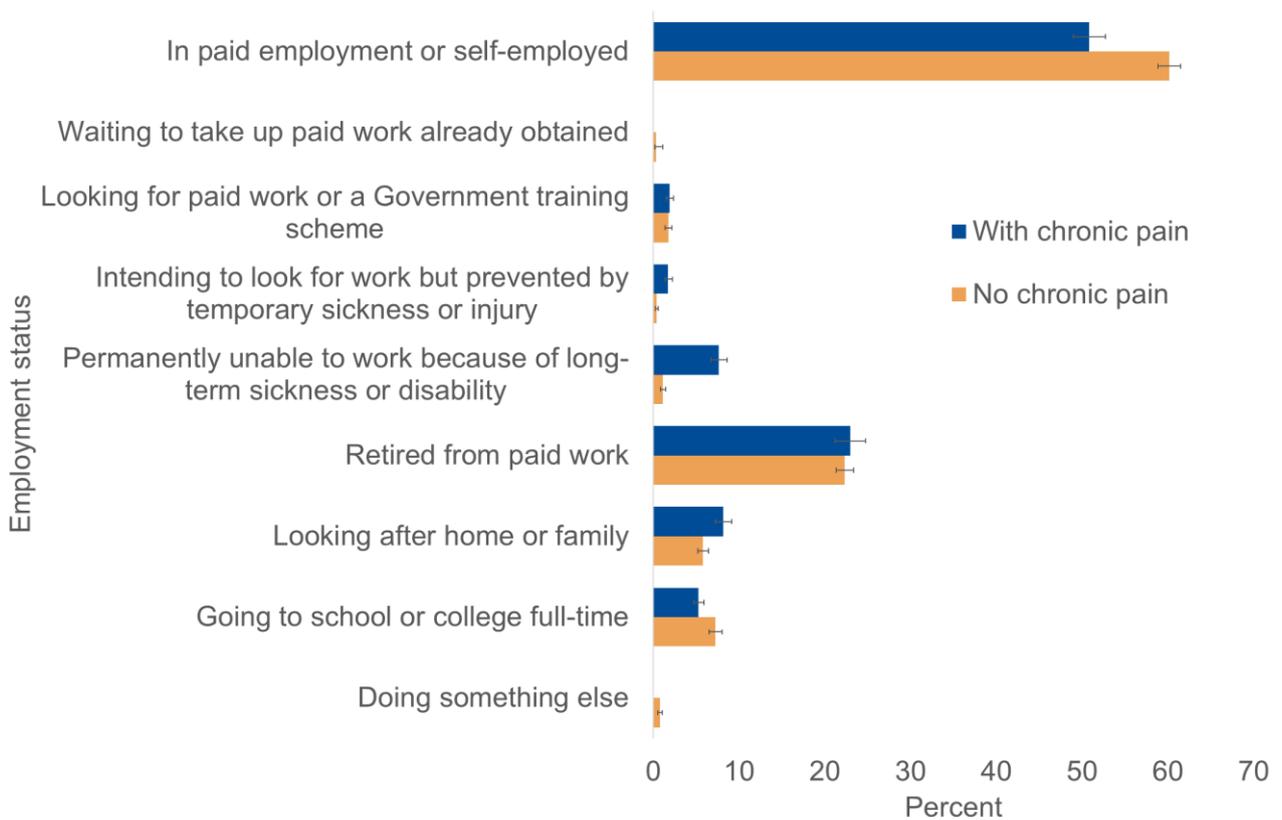


Source: Health Survey for England, 2017

It is also interesting to look at the distribution of all those who had chronic pain by employment status, and contrast this with the distribution for those who did not have chronic pain (Figure 7, Table V).

People who reported chronic pain were less likely to be in employment (51% of all those who reported chronic pain) than those who did not report having chronic pain (60% of all those with no chronic pain). Those with chronic pain were more likely to report being permanently unable to work because of long-term sickness or disability (8%) than those without chronic pain (1%) (Figure 7, Table V).

Figure 7: Chronic pain by employment status, 2017, age standardised



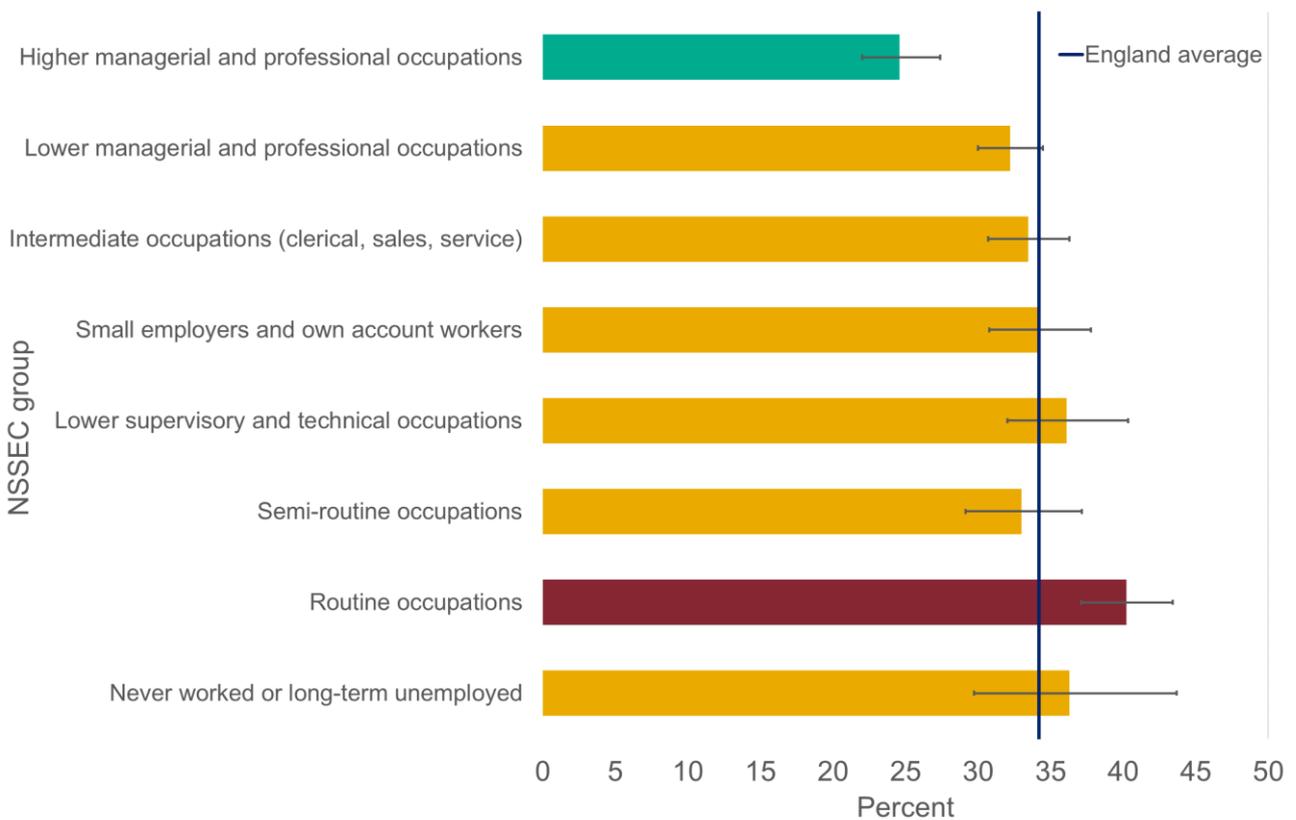
Source: Health Survey for England, 2017

Chronic pain and socio-economic classification

The **National Statistics Socio-economic Classification (NS-SeC)** provides an indication of socio-economic position based on occupation. It is an Office for National Statistics standard classification.

Those in routine occupations reported higher prevalence of chronic pain (40%) than the England average, with those in higher managerial and professional occupations least likely to report chronic pain (25%) (Figure 8, Table VI).

Figure 8: Prevalence of chronic pain, by NS-SeC, 2017, age standardised

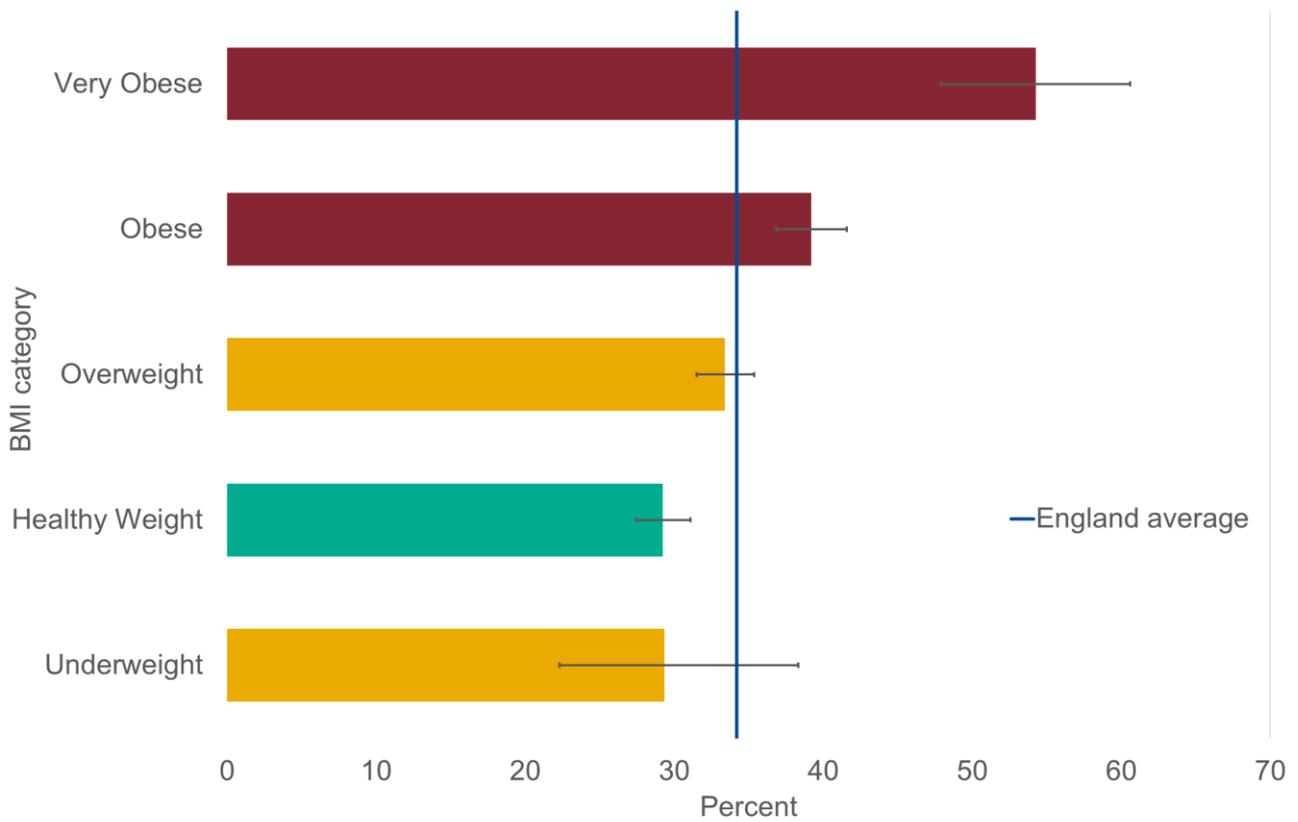


Source: Health Survey for England, 2017

Chronic pain and body mass index (BMI)

People with a healthy weight reported a lower prevalence of chronic pain (29%) than the average for all persons (34%). Those in the obese (39%) and very obese (54%) categories reported a higher prevalence (Figure 9, Table VII). The pattern was similar when split by sex (Table VII).

Figure 9: Prevalence of chronic pain, by body mass index (BMI), 2017, age standardised

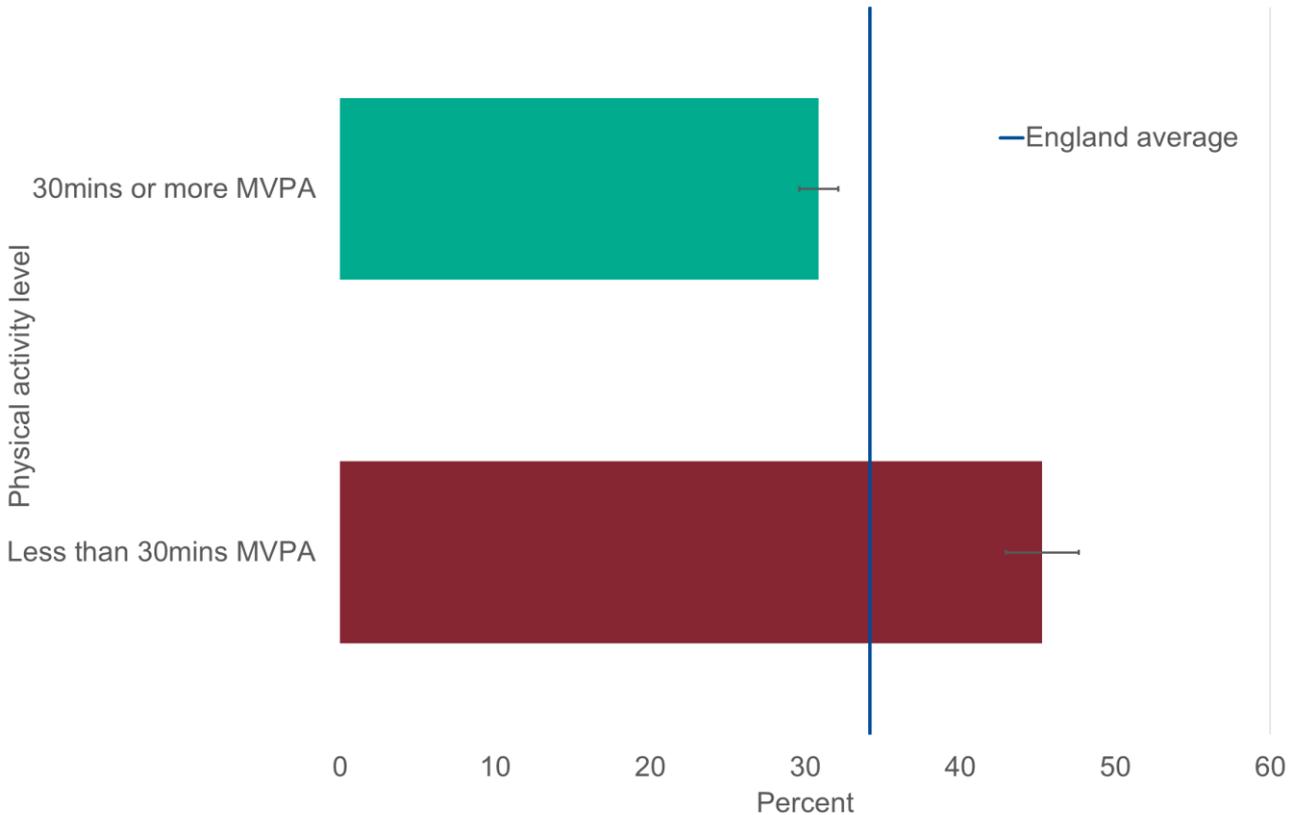


Source: Health Survey for England, 2017

Chronic pain by physical activity level

Those who reported below 30 minutes of moderate or vigorous physical activity (MVPA) per week reported a higher prevalence of chronic pain (45%) than those who completed 30 minutes or more of MVPA per week (31%) (Figure 10, Table VIII).

Figure 10: Prevalence of chronic pain, by physical activity level, 2017, age standardised



Source: Health Survey for England, 2017

Site of chronic pain

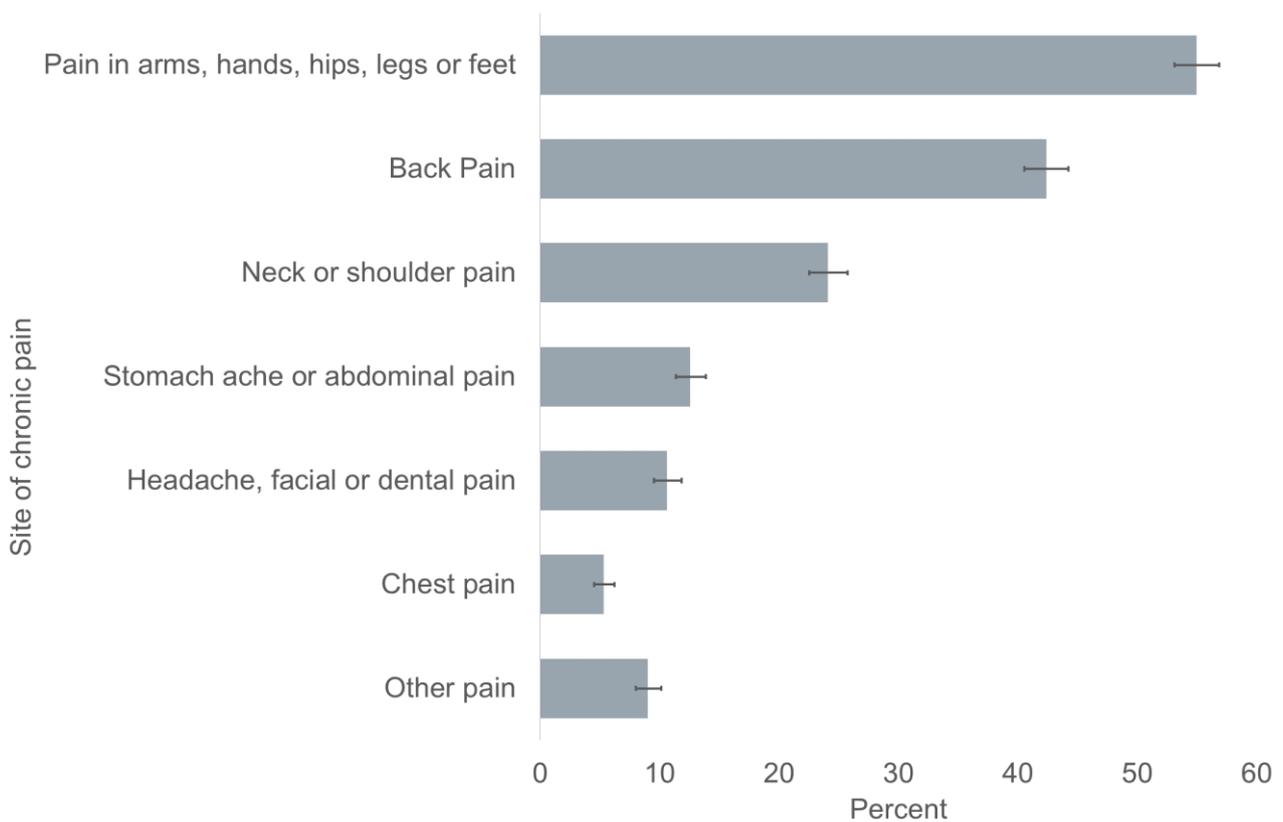
Respondents who experienced chronic pain were asked to report all the sites of their pain. The most common reported sites of chronic pain was pain in their arms, hands, hips, legs or feet (55%), followed by back pain (42%) and neck or shoulder pain (24%) (Figure 11, Table X). The numbers do not add to 100% as people could mention more than one site.

In summary, the most commonly reported sites of chronic pain were musculoskeletal-related, with 84% of those with chronic pain reporting pain in one or more of their arms, hands, hips, legs or feet, back pain or neck or shoulder pain (Table X).

Women reported higher rates of back pain than men (45% and 39% respectively) and head or dental pain (13% and 8% respectively) while reporting of other sites were similar between the 2 sexes (Table X).

Pain in the arms, hands, hips, legs or feet was more prevalent at older ages, 34% of 16-34 year olds reported pain at these sites compared with 66% in the 75+ age group. Prevalence of back and neck or shoulder pain were similar throughout the age groups. Pain in the stomach or abdomen and head or dental pain was less prevalent at older ages at 17% and 16% in 16-34 year olds, to 8% and 3% in 75+ years (Table X).

Figure 11: Site of chronic pain, 2017, age standardised



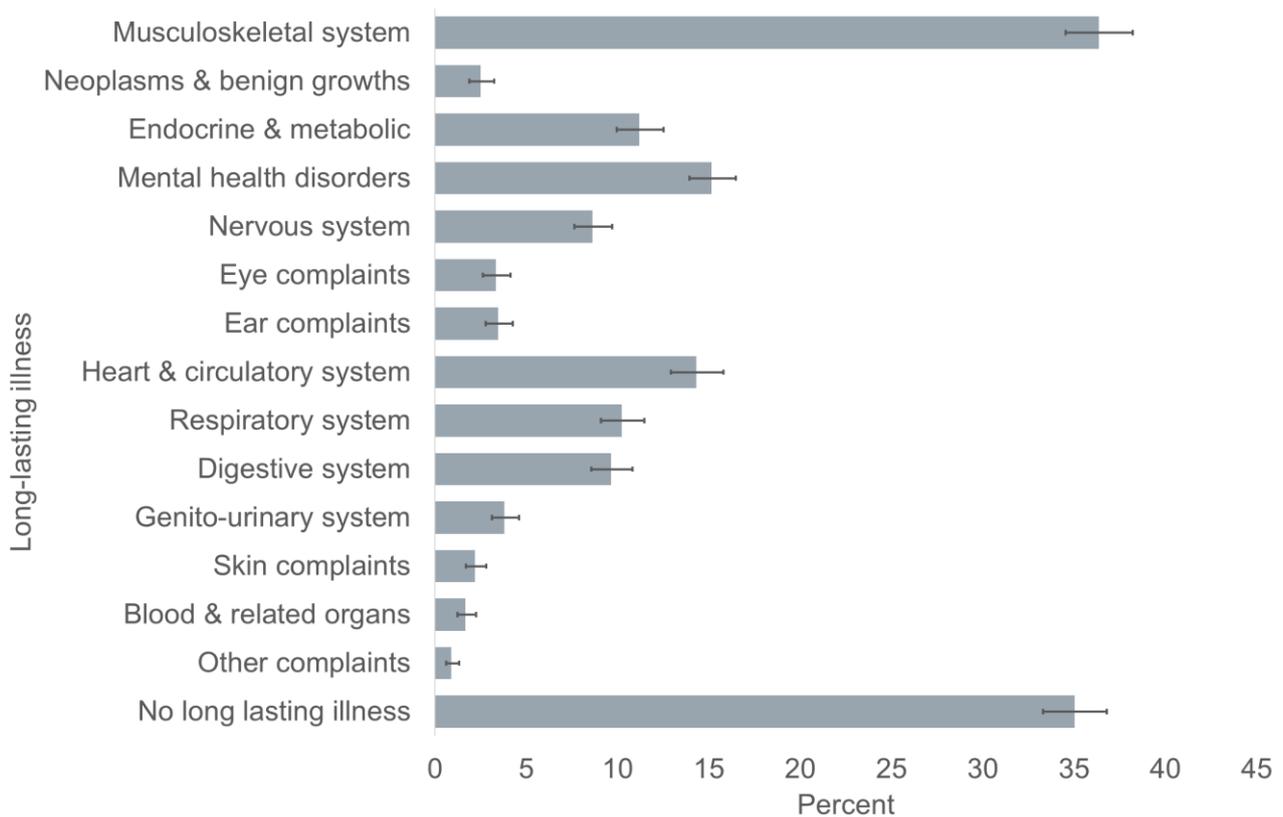
Note: Percentages add to more than 100 as the respondent could report chronic pain in more than one location.
 Source: Health Survey for England, 2017

Chronic pain and long-lasting illness

Long-lasting illnesses are defined as illnesses expected to last more than 12 months. Figure 12 takes all the respondents who reported chronic pain and shows which long-lasting illnesses they had. Respondents could record up to 6 long-lasting illnesses meaning the values add up to more than 100%. We do not know which illness is causing the chronic pain as the questions about chronic pain and long-lasting illnesses are not connected, and respondents could mention more than one long-lasting illness.

Of those who reported chronic pain, 36% also reported a long-lasting musculoskeletal condition, 35% reported no long-lasting illness, 15% reported a mental health disorder and 14% reported a heart or circulatory condition (Figure 12, Table XI).

Figure 12: Prevalence of long-lasting illness among those experiencing chronic pain, 2017, age standardised



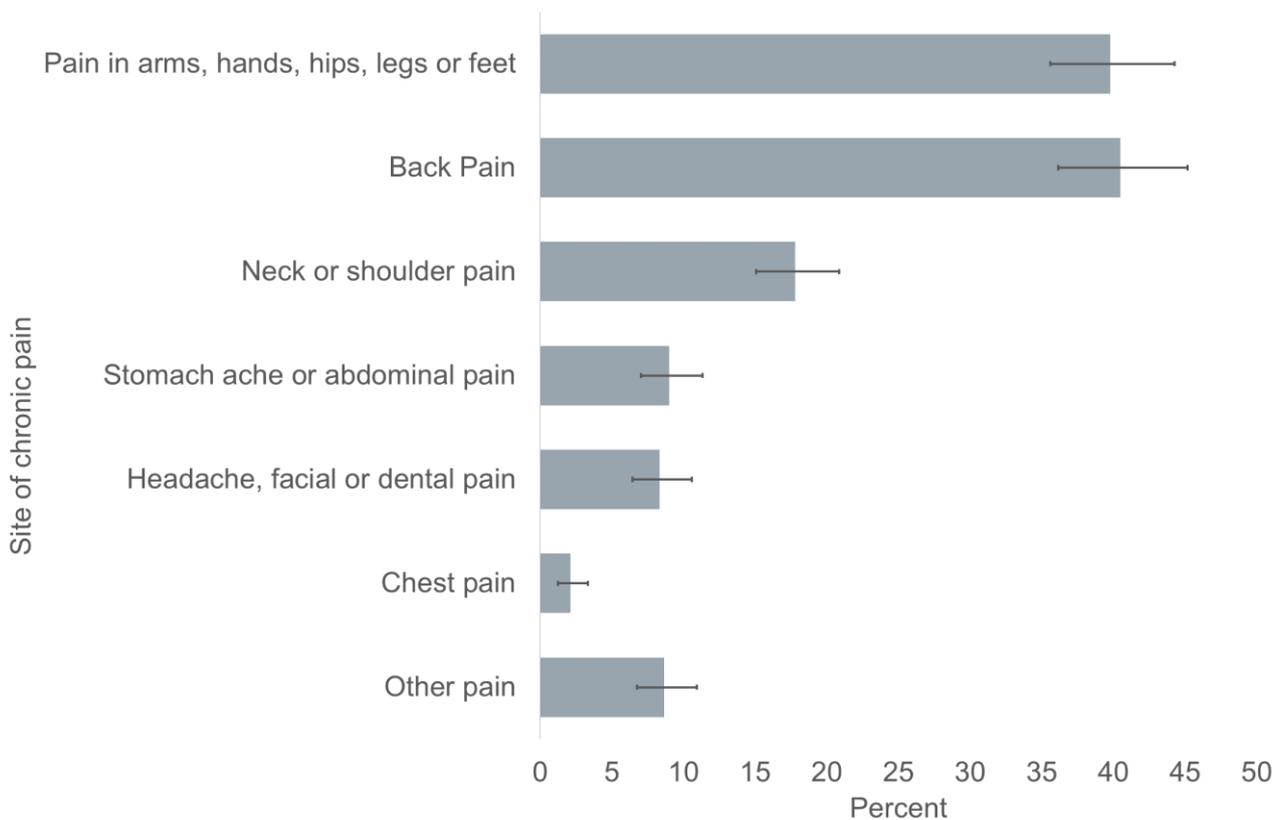
Source: Health Survey for England, 2017

Site of chronic pain with no long-lasting illness

Just over a third of respondents (35%) who were in chronic pain reported no long-lasting illness. As stated previously, chronic pain is classed as having pain for 12 weeks or more whereas a long-lasting illness was classed as lasting 12 months or more. This suggests those saying they had no long-lasting illness probably had a short-term illness which lasted between 3 to 12 months. The survey did not ask a question to determine what these short-term illnesses were.

However, it is possible to conduct further analysis on the no long-lasting illness group and the site of the chronic pain reported. This showed that most of the chronic pain for this group was in the arms, hands, hips, legs or feet (40%), back (40%) and neck or shoulder (18%) (Figure 13, Table XII). When these musculoskeletal-related conditions are looked at in combination, of those with chronic pain but no long-lasting illness, 81% reported pain in one or more of their arms, hands, hips, legs or feet, back pain or neck or shoulder pain (Table XII). Pain in these locations is likely to also be musculoskeletal which means there is likely to be more people with chronic pain who have a musculoskeletal-related condition than this survey is showing.

Figure 13: Site of chronic pain among those who reported no long-lasting illness, 2017, age standardised



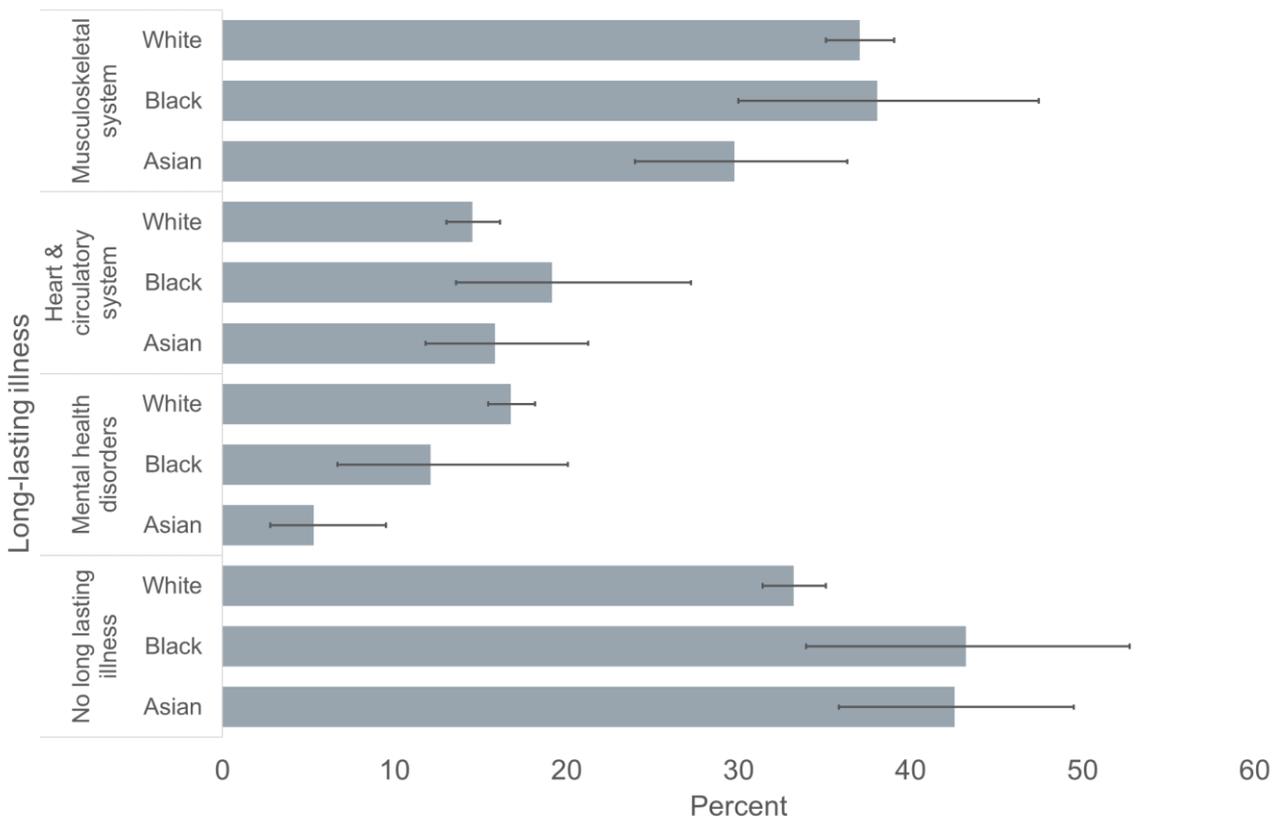
Source: Health Survey for England, 2017

Long-lasting illness, chronic pain and ethnicity

As shown in Figure 4, Black people reported higher rates of chronic pain than other ethnic groups. To further understand this finding, Figure 14 shows the prevalence of chronic pain by long-lasting illness and ethnicity (only 3 long-lasting illnesses and the no long-lasting illness group were able to be reported due to small numbers).

The percentage of people with musculoskeletal, heart and circulatory system and/or mental health disorders that reported chronic pain were similar between White, Asian and Black groups. However, among those reporting no long-lasting illness, prevalence of chronic pain was higher amongst the Asian (43%) group than the White group (33%) (Figure 14, Table XIII). The prevalence for the Black group was also 43% but this was not statistically significantly different to the White group, as the estimate for the Black group is based on a smaller sample size than the Asian group and therefore has a wider confidence interval. The site of chronic pain among those reporting no long-lasting illness is likely to be related to short term musculoskeletal conditions as discussed earlier (Figure 13).

Figure 14: Prevalence of chronic pain, by long-lasting illness and ethnicity, 2017, age standardised

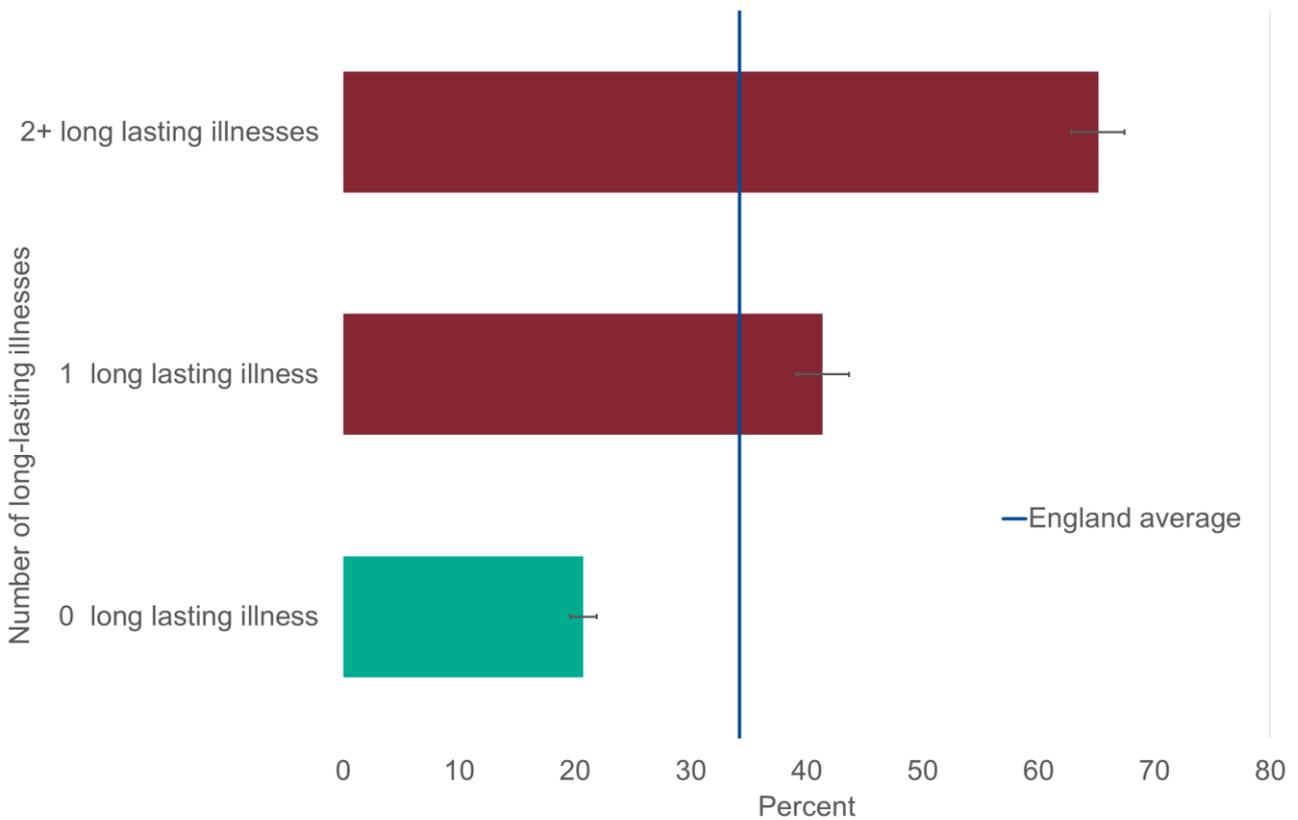


Source: Health Survey for England, 2017

Chronic pain and multimorbidity

The prevalence of chronic pain increases with the number of long-lasting illnesses reported, with multimorbidity defined as having 2 or more long-lasting illnesses. Of those that reported 2 or more long-lasting illnesses 65% said they were in chronic pain, with 41% of those reporting one long-lasting illness being in chronic pain (Figure 15, Table XIV).

Figure 15: Prevalence of chronic pain, by number of long-lasting illnesses, 2017, age standardised



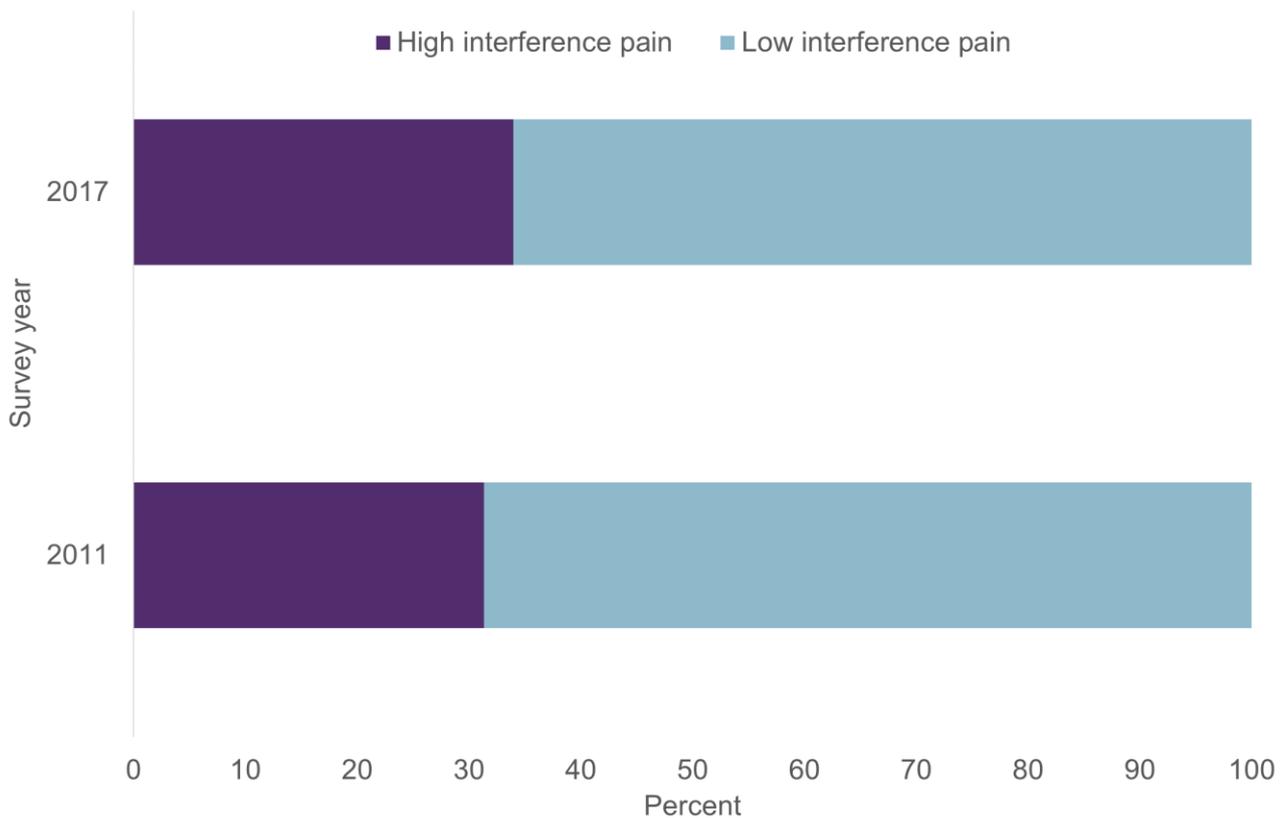
Source: Health Survey for England, 2017

Chronic pain grade

Respondents were assigned a chronic pain grade based on their ratings of pain level and extent to which their pain interfered with their usual activities. An explanation of the grading system was given earlier in the methods section of this report.

Most respondents who experienced chronic pain reported low interference (66%) with their usual activities as opposed to high interference pain (34%). Levels of high interference pain were similar in 2011 (31%), although neither of these estimates have been age standardised so this comparison does not allow for any impact from changes in the age distribution in 2017 compared to 2011 (Figure 16, Table XVIII).

Figure 16: Chronic pain grade among those experiencing chronic pain, 2017 and 2011

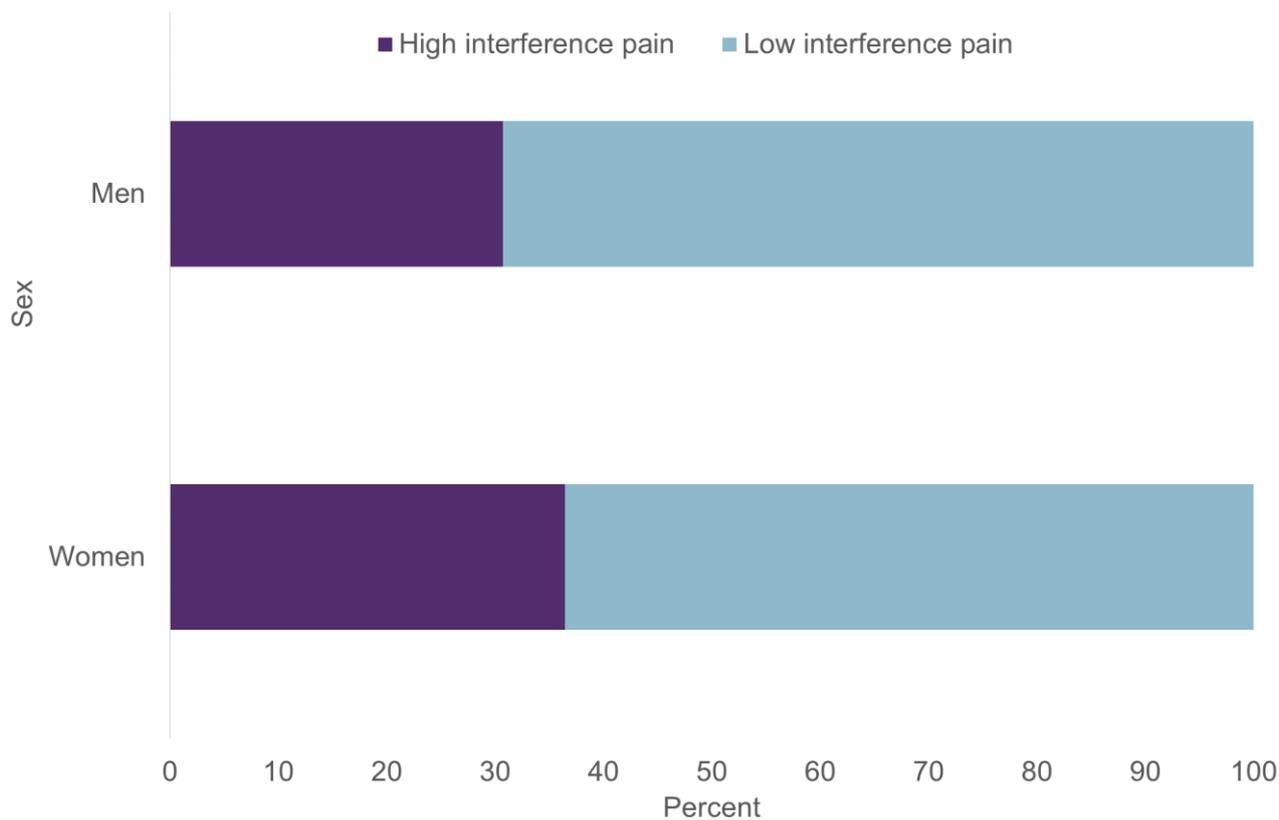


Source: Health Survey for England, 2017 and 2011

Chronic pain grade and sex

Most of the chronic pain among both men and women was low interference pain, 69% and 64% respectively. Women were more likely to report pain that had a high interference (36%) on their usual activities than men (31%) (Figure 17, Table XVIII).

Figure 17: Chronic pain grade among those experiencing chronic pain, by sex, 2017



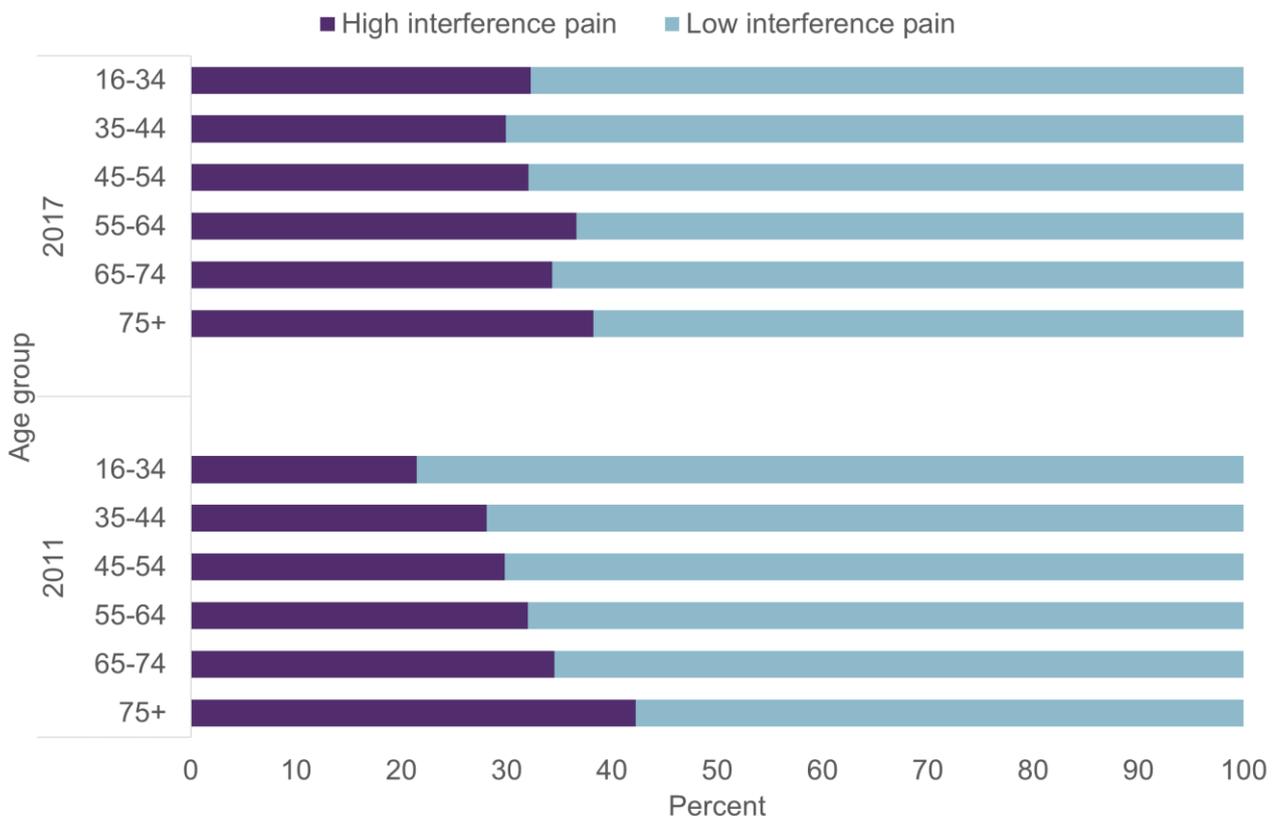
Source: Health Survey for England, 2017

Chronic pain grade and age

In 2017, of those with chronic pain, there were similar levels of high interference pain across all ages. This is a change from 2011, where there was an increase with age.

The prevalence of high interference pain was similar to 2011 results for all age bands except 16 to 34 years who reported a higher rate in 2017 of 32% compared to 21% in 2011 (Figure 18, Table XVIII).

Figure 18: Chronic pain grade among those experiencing chronic pain, by age, 2017 and 2011

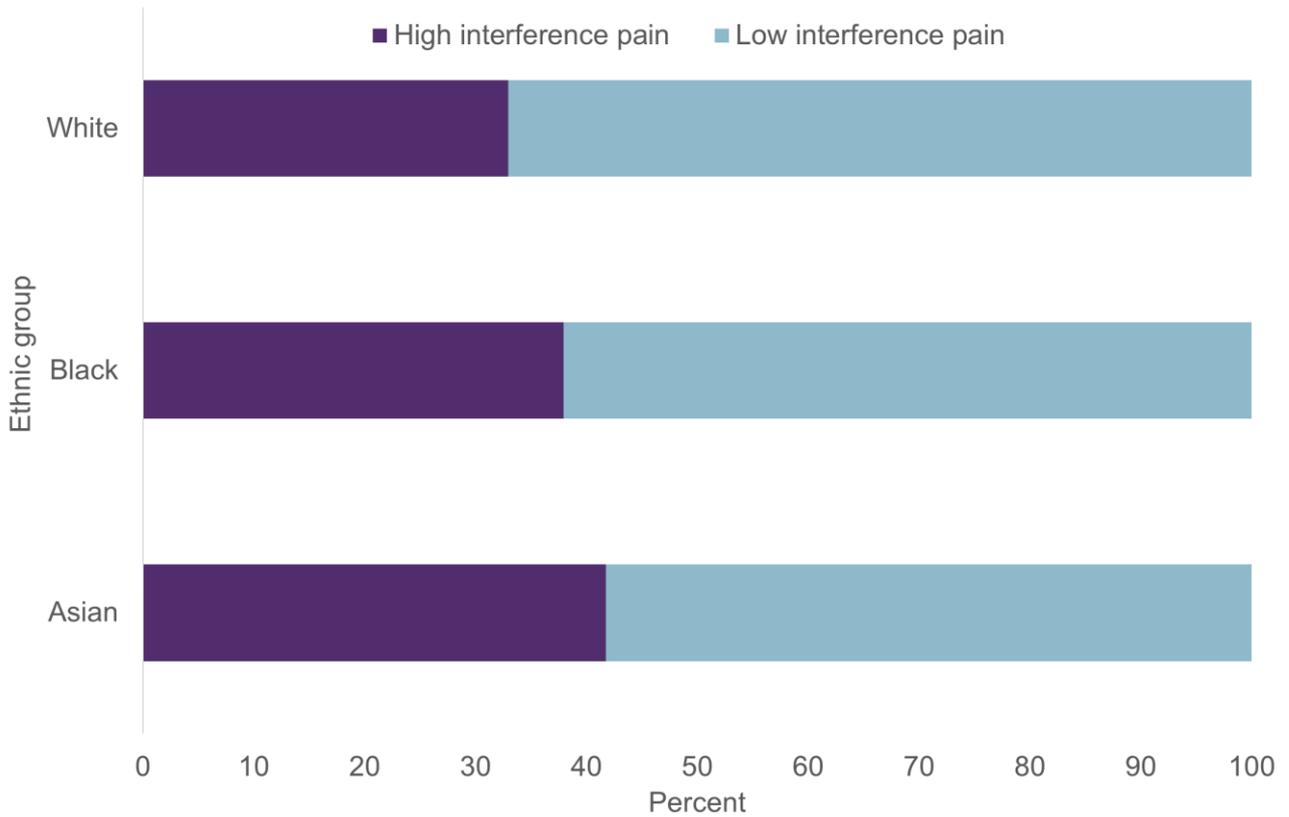


Source: Health Survey for England, 2017 and 2011

Chronic pain grade and ethnicity

Among those with chronic pain, people in the Asian ethnic group (42%) were more likely to report pain that had a high interference on their usual activities than the White group (33%) (Figure 19, Table XIX).

Figure 19: Chronic pain grade among those experiencing chronic pain, by ethnicity, 2017, age standardised

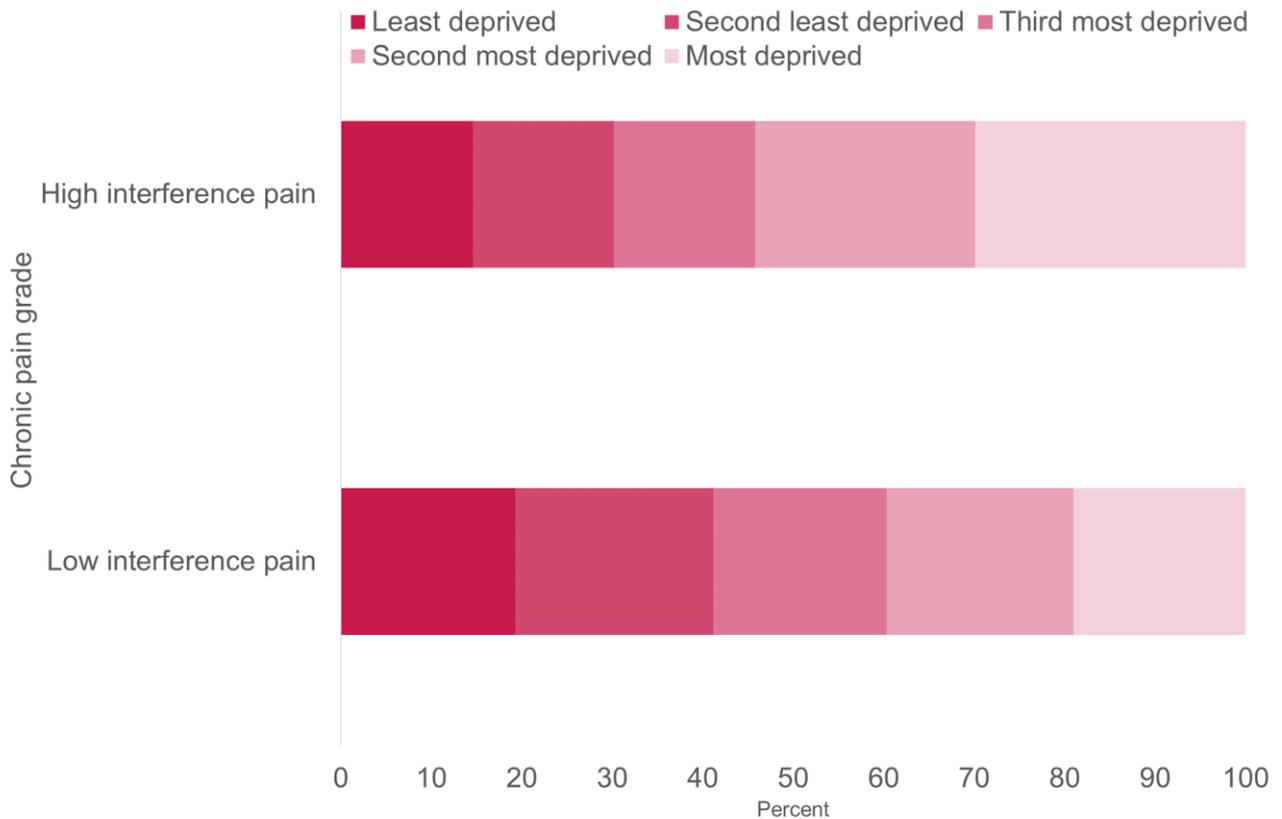


Source: Health Survey for England, 2017

Chronic pain grade and Index of Multiple Deprivation (IMD)

Figure 5 highlighted that prevalence of chronic pain was higher among those in more deprived areas. In Figure 20 we can see how chronic pain grade varies by deprivation. Among those that reported chronic pain with a high interference on usual activities, people were twice as likely to live in the most deprived quintile (30%) than those who lived in the least deprived quintile (15%). This link with deprivation is not evident among those with low interference chronic pain, where there was an even split across all the IMD quintiles (Figure 20, Table XX).

Figure 20: Chronic pain grade among those experiencing chronic pain by Index of Multiple Deprivation, 2017, age standardised

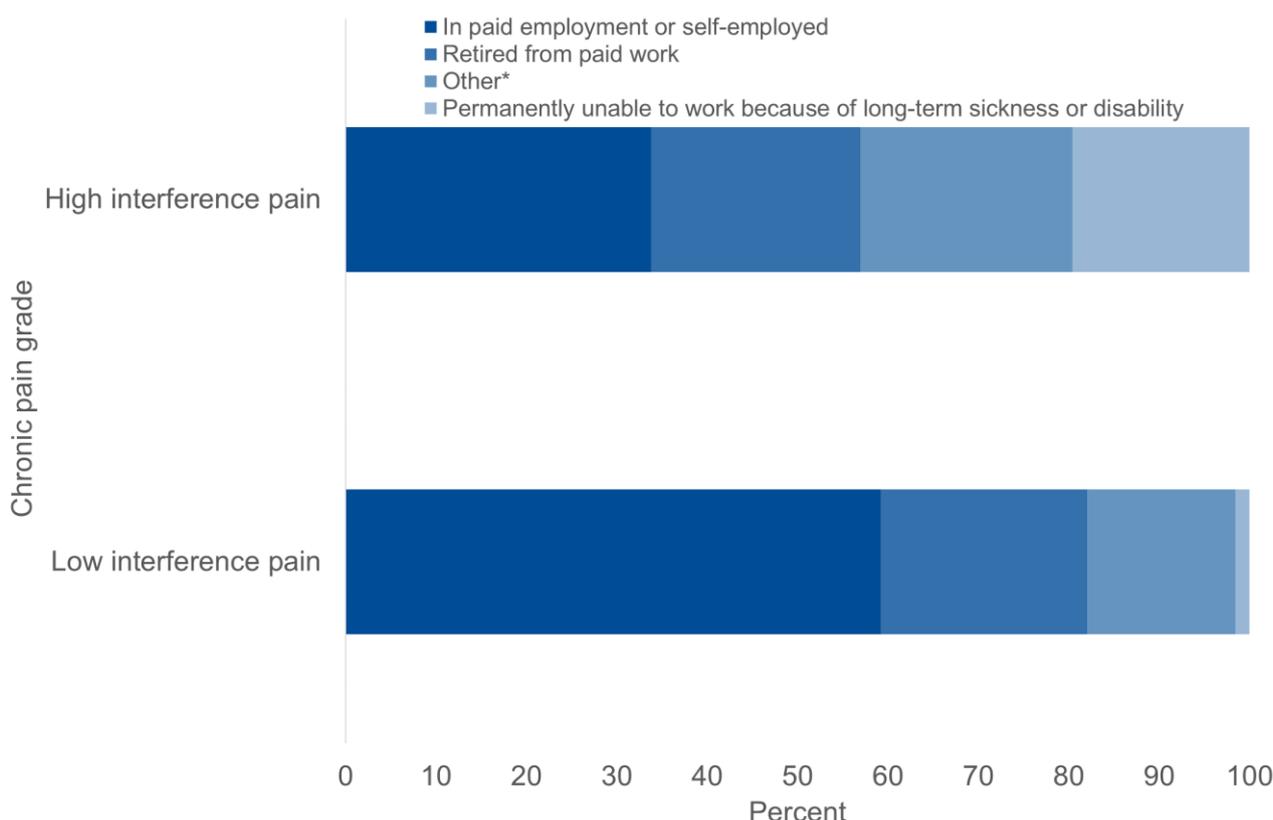


Source: Health Survey for England, 2017

Chronic pain grade and employment status

Among those with chronic pain, respondents with high interference pain were less likely to be employed (34%) than those with low interference pain (59%). By contrast, they were more likely to be permanently unable to work because of long-term sickness or disability (20%) than those with low interference pain (2%) (Figure 21, Table XXI).

Figure 21: Chronic pain grade among those experiencing chronic pain by employment status, 2017, age standardised



Note: Other* includes those that were: Doing unpaid work for a business that you own, or that a relative owns; Waiting to take up paid work already obtained; Looking for paid work or a Government training scheme; Intending to look for work but prevented by temporary sickness or injury; Looking after home or family; Going to school or college full-time; Doing something else.

Source: Health Survey for England, 2017

Chronic pain grade and socio-economic classification

Respondents with high interference pain were more likely to be in semi-routine occupations (24%) than those with low interference pain (18%). Those with low interference pain were more likely to be in lower managerial and professional occupations (23%) than those with high interference pain (19%) (Figure 22, Table XXII).

There were also noticeable differences for the higher managerial and professional occupations which contained 11% of those with low interference pain but only 4% of those with high interference pain. Those with high interference pain were more likely to have never worked or be long term unemployed (6%) than those with low interference pain (2%) (Figure 22, Table XXII).

These percentages which add to 100 are shown as a horizontal bar chart as there are too many categories to display in a stacked bar chart as in the previous figures.

Figure 22: Chronic pain grade among those experiencing chronic pain by socio economic classification, 2017, age standardised



Source: Health Survey for England, 2017

Chronic pain and grade and long-lasting illness

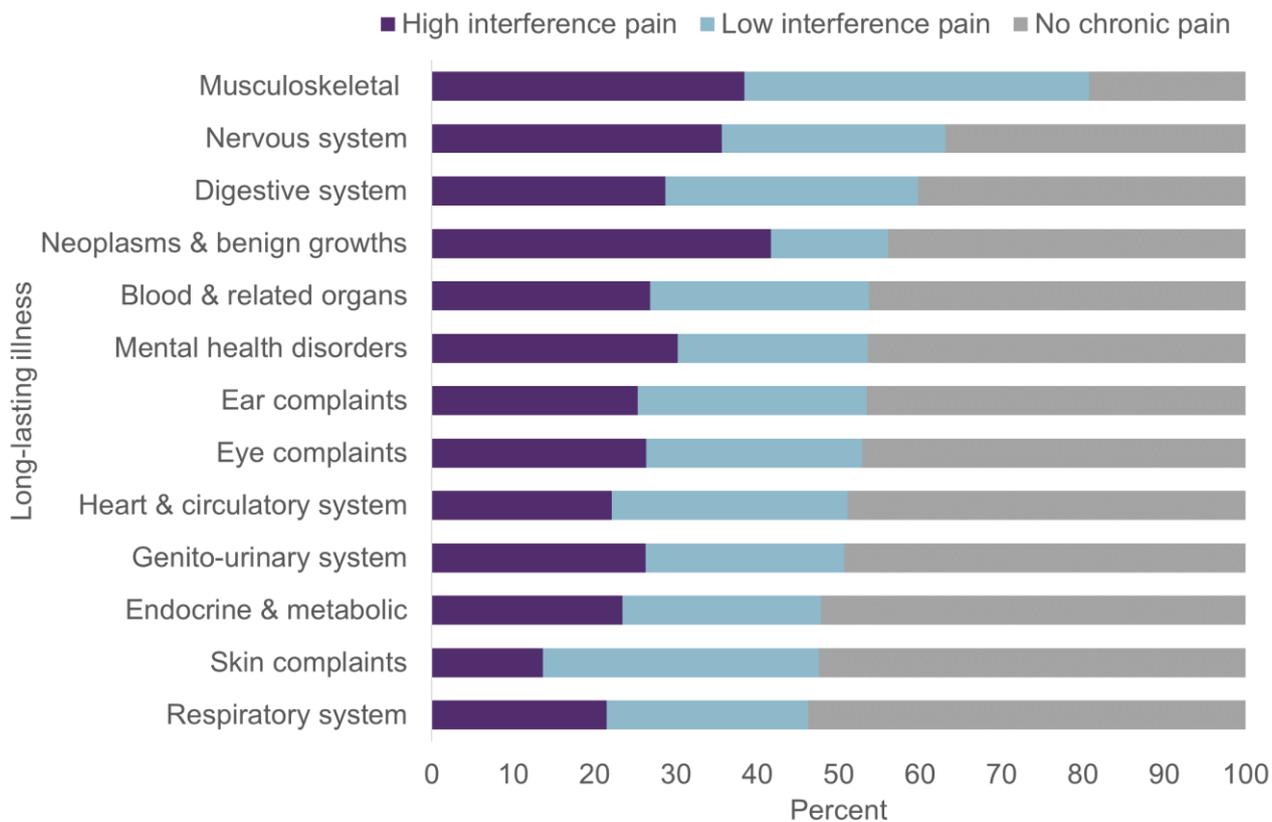
Figure 23 shows the prevalence of chronic pain and the level of interference on usual activities for those who reported each long-lasting illness. For completeness, the proportion of people who reported they were not experiencing chronic pain is also included.

As mentioned before, the questions about long-lasting illnesses were not directly linked to questions about chronic pain so chronic pain may not be associated with the long-lasting illness that is reported, particularly if the respondent reported suffering from more than one condition.

Respondents who said they had a long-lasting musculoskeletal condition were most likely to experience chronic pain (81%) and reported similar rates of low interference pain (42%) and high interference pain (38%). Those with neoplasms and benign growths were most likely to report high interference pain (42%), followed by musculoskeletal conditions (38%) and those with a long-standing nervous system illness (36%) (Figure 23, Table XXIV).

Table XXV (not included in Figure 23 here) shows among those that reported chronic pain with a high interference on usual activities, respondents were most likely to have a musculoskeletal condition (51%). This was significantly higher than the next condition, mental disorders (28%). Those with neoplasms and benign growths were most likely to report high interference pain (Figure 23) but only made up 5% (Table XXV) of all respondents with high interference pain, which shows that relatively few people reported they had these conditions.

Figure 23: Prevalence of chronic pain grade by long-lasting illness, 2017, age standardised

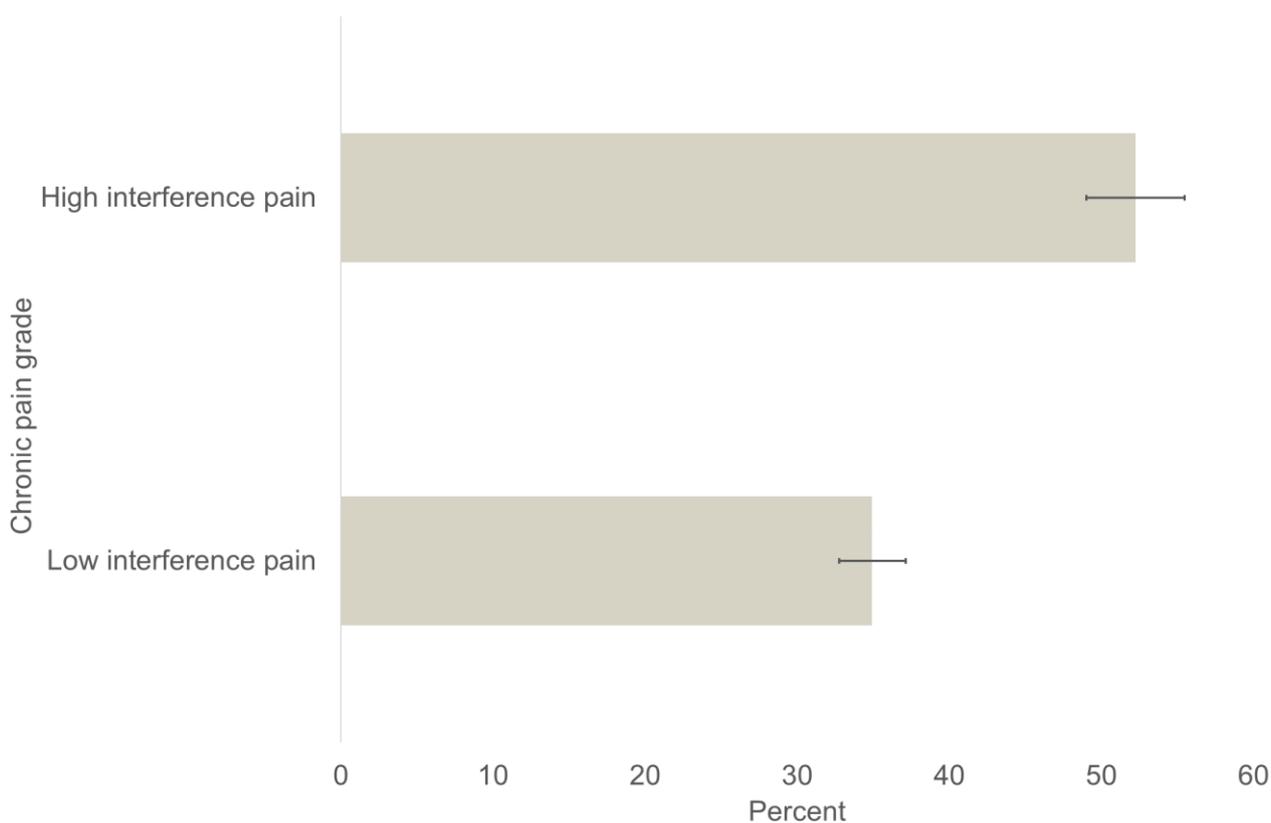


Source: Health Survey for England, 2017

Chronic pain grade and use specialist pain service

Respondents with chronic pain were asked if they had seen anyone from a specialist pain service such as a doctor, nurse or physiotherapist. Those that experienced chronic pain with a high interference on daily activities (52%) were more likely to use specialist pain services than those with low interference pain (35%) (Figure 24, Table XXVI).

Figure 24: Use of a specialist pain service by chronic pain grade, 2017, age standardised

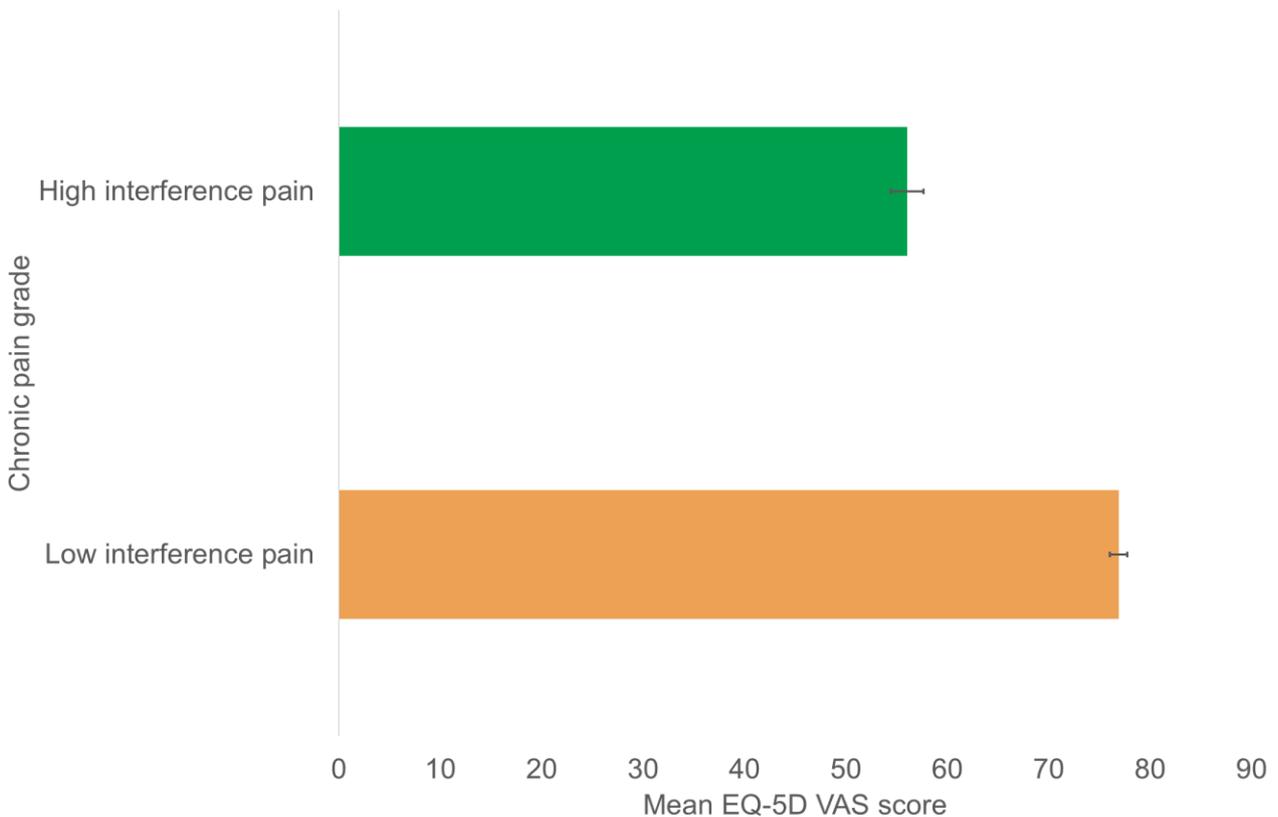


Source: Health Survey for England, 2017

Chronic pain grade and EQ-5D

The visual analogue scale (VAS) within the EQ-5D provides a measure of self-assessed health status on that day, ranging from 0 (worst imaginable health) to 100 (best imaginable health). The mean score on this scale varied according to chronic pain grade. Those that reported a high pain interference on usual activities had a lower VAS score (56) than those with a low pain interference (77). There were no differences in mean VAS score between men and women regardless of level of interference (Figure 25, Table XXVII).

Figure 25: Mean EQ-5D Visual Analogue Scale (VAS) score by chronic pain grade, 2017, age standardised



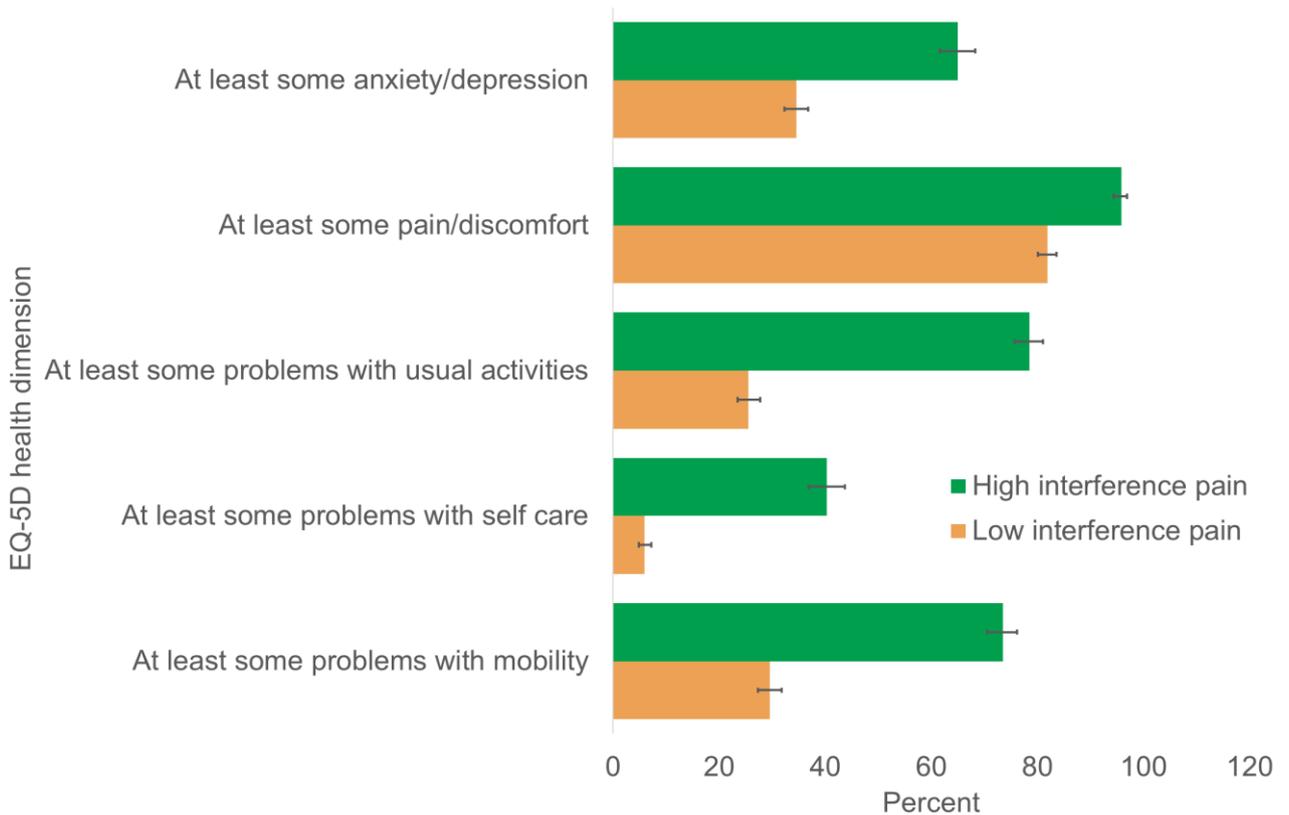
Source: Health Survey for England, 2017

As part of the EQ-5D measure, respondents were also asked to assess the levels of problems they had that day with 5 dimensions of health. These were mobility, self care, usual activities, pain/discomfort, and anxiety/depression. Each of the dimensions had 5 levels of response, no problems, slight problems, moderate problems, severe problems and extreme problems. For analysis the answers have been grouped into 2 categories, those who said they had no problems and those who reported any level of problem.

Across all 5 dimensions, those that experienced chronic pain with a high interference in usual activities were more likely to report problems in the EQ-5D than those with low

interference pain. While the higher rates of problems with their physical health are to be expected, a similar pattern is reported for anxiety/depression. Of those with high interference pain, 65% reported at least some anxiety/depression compared with 35% of those with low interference pain (Figure 26, Table XXVIII).

Figure 26: Prevalence of EQ-5D dimension by chronic pain grade, 2017, age standardised



Source: Health Survey for England, 2017

Discussion

There are some limitations to this analysis in that it is based on self-reported survey data rather than clinical assessments, and findings for some of the sub-groups are based on a smaller number of survey respondents than others making us less certain about the findings for those smaller groups. In addition, the survey does not capture causes of chronic pain such as whether inactivity leads to chronic pain or whether chronic pain causes people to be inactive. Despite these limitations, this report does show clearly that chronic pain affects many adults in England and certain groups are affected more than others.

Women were more likely than men to report the presence of chronic pain and were also more likely to experience high interference in their usual day to day activities. There was a marked increase in the prevalence of chronic pain with age, but chronic pain was not just confined to older people with nearly two-fifths of those aged 45 to 54 years reporting chronic pain. This highlights many people of a working age are reporting chronic pain, which may be causing disruption to their working lives and adding to the economic impact from days lost at work. Chronic pain also affects employment status, with those that suffered from chronic pain less likely to be in paid employment and more likely to be permanently unable to work because of long-term sickness or disability. These differences are even greater among those who experienced high interference in their usual activities.

Changes in the proportion of people reporting chronic pain for those aged 16 to 24 years between 2011 and 2017 show more young people are experiencing high interference pain in 2017. It is unclear what has caused this increase in young people over the 6-year period.

People belonging to the Black ethnic group were most likely to report chronic pain which could be related to musculoskeletal conditions as explored earlier in this report. Previously published analysis of [prevalence of a long term musculoskeletal condition by more detailed ethnic groups](#) suggests this high chronic pain prevalence rate for the Black ethnic group may be driven by the Black Caribbean group.

People who were obese or very obese were more likely to report chronic pain, as did those who reported low levels of physical activity but it is not possible from this study to know whether chronic pain leads to obesity and reduced physical activity levels, or if obesity and low physical activity levels lead to chronic pain.

There were also socioeconomic inequalities, with people from the most deprived areas more likely to report chronic pain than living in more prosperous areas. This may be related to those that experienced chronic pain with a high interference in usual activities being more likely to live in more deprived areas.

For those reporting chronic pain the most common long-lasting illness was musculoskeletal conditions and more than half of those reporting high interference in their usual activities reporting a musculoskeletal condition. Therefore, reducing the number of people suffering musculoskeletal conditions may reduce the burden of chronic pain on society.

Being in high interference chronic pain was associated with higher rates of anxiety/depression and long-lasting mental health illnesses and, although it is not possible to say whether pain or mental health illnesses come first, it is clear that they are related. A multidisciplinary approach to chronic pain management which addresses all the areas related to chronic pain would be beneficial during treatment.

In terms of managing chronic pain and seeking support only half of respondents whose chronic pain had a high interference in usual activities had seen a pain specialist. Increasing the offering of interventions such as referral to pain specialists, psychological therapies or self-management advice may help to reduce the burden of chronic pain on society.

Inequalities in chronic pain suggests more can be done within the health system to understand why certain groups are affected more than others. This will allow a focus to be placed on these groups to reduce the overall burden of chronic pain.

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Public Health England exists to protect and improve the nation’s health and wellbeing, and reduce health inequalities. We do this through world-leading science, research, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. We are an executive agency of the Department of Health and Social Care, and a distinct delivery organisation with operational autonomy. We provide government, local government, the NHS, Parliament, industry and the public with evidence-based professional, scientific and delivery expertise and support.

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